Summary of
Cotton Fiber and Processing Test Results

CROP of 1979

U.S. DEPARTMENT OF AGRICULTURE
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SUMMARY OF COTTON FIBER AND PROCESSING TEST RESULTS
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INTRODUCTION

This report contains information on the fiber properties and spinning performance of cotton from major commercial production areas of the United States. Similar reports have been published annually since 1946.[1/] These reports summarize and add supplemental information to the data published in biweekly reports which were titled "Cotton Fiber and Processing Test Results, Crop of 1979" and numbered 1 through 12.

The results of fiber and spinning tests made in connection with these annual surveys provide data for studies of the relationships between fiber properties, processing performance and product quality. The data are used to measure the effectiveness of the standards to be sure that they continue to reflect differences in spinning utility. Publications of the biweekly reports enables merchants and manufacturers to use the results to locate sources of cotton to meet their specific requirements. Farmers and breeders may also use the data as a source of quality information regarding the various varieties of cottons produced under commercial growing conditions.

SAMPLING PROCEDURES

The procedure for selecting samples for the 1979 survey was designed to provide test lots representing all major varieties in each of the territories served by Cotton Division Marketing Services Offices (MSO). Variety selections were based on the predominant varieties planted in each MSO territory as reported by the Cotton Division in "Cotton Varieties Planted, 1975-1979." A production area was selected to represent the leading variety and one to represent each of the other varieties with an expected production of 10,000 bales or more in each MSO territory. Additional areas were selected for those varieties with a production of over 150,000 bales. One additional production area was selected for each 150,000 bales or portion thereof in excess of the first 150,000 bales. Production areas with at least 70 percent of one variety were designated as that variety with no attempt made to maintain the purity of the variety except by selection of representative production areas. However, in some cases, where there was unusual interest in a particular variety and a low percentage was planted in the area, the MSO selected lots representing 100 percent of the variety. The locations of the 140 production areas selected for the 1979 survey are shown on figure 1.

1/ Copies of past summary reports may be obtained from the Testing Section, Cotton Division, AMS, USDA, P. O. Box 67, Clemson, SC 29631, until supplies are exhausted.

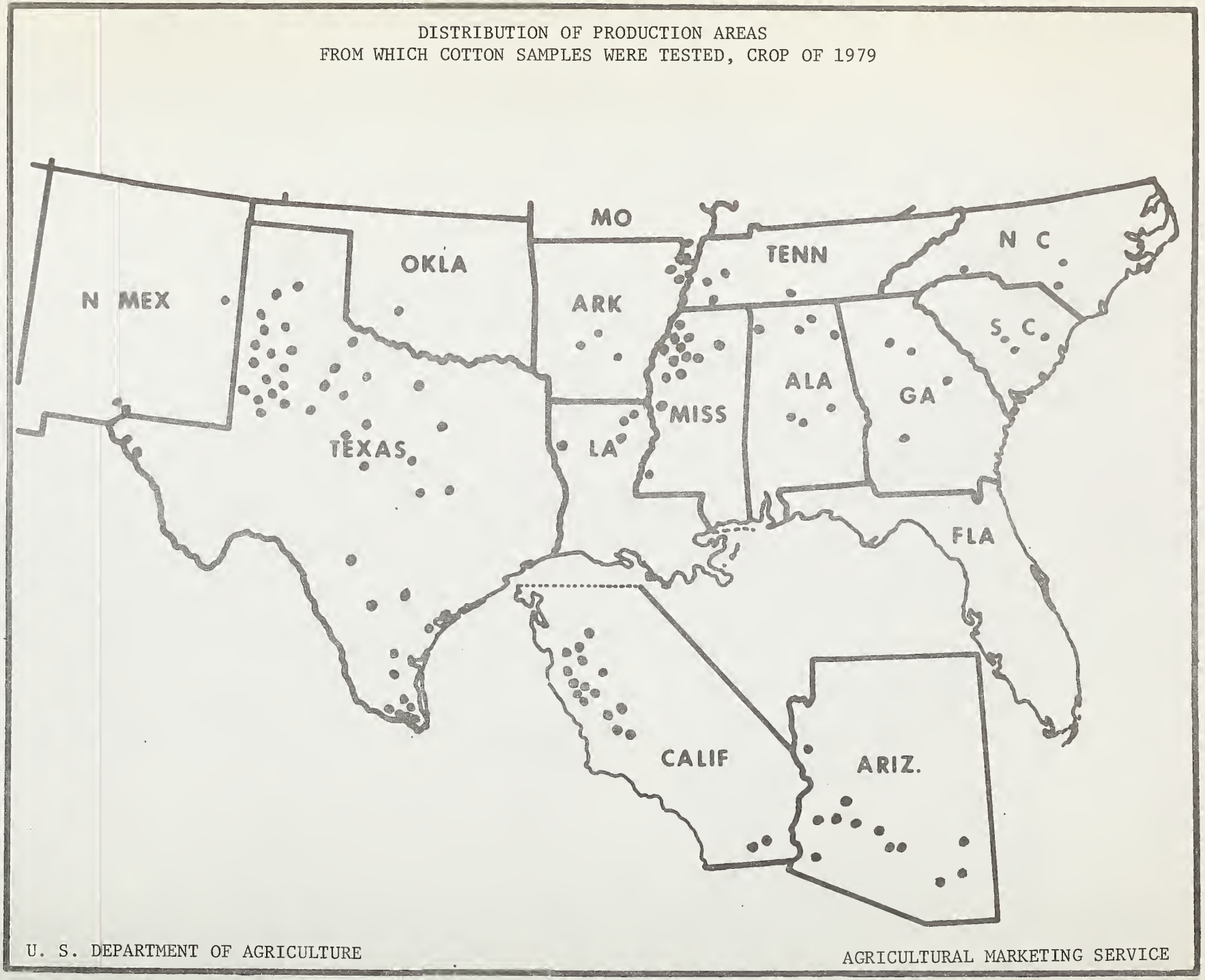

Figure 1. Location of production areas selected for the 1979 Survey.

Test lots were collected from each production area at intervals of three weeks during the harvest season. Lots were selected to represent the predominant grade and staple being classed at the time of collection. For the most part, these areas produce the specified qualities in quantities large enough to enable buyers to obtain lots of even-running grade and staple. Obviously, other qualities of cotton are available in each area as a result of normal seasonal, soil, harvesting, and other variations. Most production areas also produce cotton of varieties other than those included in the tests.

Each spinning lot used in this study was made up of 20 to 30 samples of the same grade and staple length from bales classed for growers under the Smith-Doxey Act. These even-running lots of samples were then tested at Cotton Division Fiber and Spinning Laboratories. While this method of collecting samples does not provide data for all qualities in the crop, it does provide average test results for those qualities in largest supply during each three-week period.

LABORATORY PROCEDURES

Fiber, spinning, and chemical finishing tests were performed under standardized procedures at the Cotton Division Spinning Laboratory at Clemson, South Carolina. Most of the fiber tests were performed in the standard atmospheric conditions of 65 percent relative humidity at a temperature of 70 degrees F. Standard test procedures as outlined by the American Society for Testing and Materials were used in making tests. Tests not covered by ASTM were performed using commonly accepted procedures as recommended by the instrument manufacturer. Five subsamples were taken at random from each spinning lot to provide representative specimens for the fiber tests.

Yarn processing or spinning tests were performed by a technique developed in the Cotton Division laboratories for processing small lots of cotton on standard-type textile machines. The samples in each lot were thoroughly composited by hand-mixing before being fed to the first process picker. This hand-mixing is similar to the machine mixing normally obtained in cotton textile opening equipment. Observations were made at each process to measure processing behavior and the yarns produced were tested to measure product quality.

On the basis of average past performance, cottons were grouped according to the expected staple length for the specified variety. All cottons of the specified variety were spun in the same manner regardless of difference in staple length. This was done so that direct comparisons of different lots of cotton within a specified variety could be made. These samples were carded at specified production rates and spun into numbers that

reflect the manufacturing values of the varieties tested. In general, the rate of carding and yarn numbers from the 1979 crop are as follows:

Group 1.--Short staple cottons, carded at 12-1/2 pounds per hour and spun into carded 8s and 22s yarns with a twist multiplier of 4.40 plus a carded yarn spinning potential test for all lots. This includes varieties which normally produce staple lengths 31/32 inch and shorter.

Group 2.--Medium staple cottons, carded at 9-1/2 pounds per hour and spun into carded 22s and 50s yarns with a twist multiplier of 4.00 plus a carded yarn spinning potential test for all lots. This group includes varieties which normally produce cottons from 1 inch through 1-3/32 inches in staple length.

Group 3.--Long staple cottons, carded at 6-1/2 pounds per hour and spun into both carded and combed 22s and 50s yarns with a twist multiplier of 3.80 plus a carded yarn spinning potential test for all lots. This group includes Upland varieties which normally produce cottons from 1-1/8 inches through 1-1/4 inches in staple length.

Group 4.--Extra long staple cottons, carded at 4-1/2 pounds per hour and spun into combed 50s and 80s yarns with a twist multiplier of 3.60. This group includes all American Pima and American Upland extra long staple varieties, which are usually 1-5/16 inches or longer in staple length.

Skeins of yarn from each spinning test lot were bleached and dyed by a technique developed in the Cotton Division laboratories for small scale finishing tests. Color tests were made on gray and chemically finished skeins of yarn as measures of the bleaching and dyeing behavior.

TEST RESULTS

U. S. Average - Upland Cotton

A total of 411 American Upland spinning lots was tested from the 1979 crop which includes short, medium, and long staple cottons. This compares with 405 lots tested from the 1978 crop. Average fiber test results showed the 1979-crop cottons to be longer and finer than the 1978-crop cottons. Length uniformity and 1/8-inch gage fiber strength were the same as the year before. Shirley Analyzer non-lint content was lower than a year ago but picker and card waste was a little higher. Yarn quality of 1979-crop cottons was better as indicated by the higher yarn strength, yarn appearance grades, and spinning potential. Neps per thousand yards of yarn were higher than in the preceding season (Table 1).

Group 1.--Short Staple Cottons

Eighty-four short staple American Upland spinning lots were tested from the 1979 crop compared with 85 lots a year earlier. Average results showed the 1979-crop short staple cottons to be longer and more uniform than a year ago. The average mike was lower. Zero gage fiber strength was down from the previous year but 1/8-inch gage strength was the same. Both Shirley Analyzer non-lint content and picker and card waste were lower than the year before. Yarns spun from the 1979-crop cottons were stronger and had a higher spinning potential. Neps were higher and yarn appearance grades were lower than in 1978.

Group 2.--Medium Staple Cottons

American Upland medium staple spinning lots tested from the 1979 crop totaled 304 compared with 296 from the 1978 crop. Average test results for all 1979-crop medium staple samples showed fibers to be longer than a year earlier with the same degree of length uniformity. Fibers were finer and weaker than in the preceding season. Yarn quality was better than last season as indicated by the higher yarn strength, higher yarn appearance grades, and higher spinning potential. Neps per thousand yards of yarn were much higher than in 1978.

The Southeastern production area includes North Carolina, South Carolina, Georgia, and Alabama. A total of 39 medium staple lots was tested in 1979 compared with 36 in 1978. Average test results showed the 1979-crop cottons to be shorter, finer, and weaker at zero gage break than a year earlier. Both Shirley Analyzer non-lint content and picker and card waste were higher than a year ago. Yarns spun from these samples were weaker and had a lower spinning potential than in the previous season. Yarn appearance grades were slightly higher.

The South Central production area includes the states of Tennessee, Missouri, Mississippi, Arkansas, and Louisiana. Ninety-eight medium staple lots were tested in 1979 compared with 124 in 1978. Medium staple cottons from the South Central area were longer and finer than in the previous season. Pressley zero gage fiber strength was slightly lower but 1/8-inch gage strength was the same as a year ago. Yarns spun from the 1979-crop cottons had improved spinning characteristics as reflected by higher yarn strength, higher appearance grades and higher spinning potential. Neps per thousand yards of yarn were appreciably higher.

The Southwestern production area consists of the states of Oklahoma and Texas except for the far western portion of Texas served by the El Paso Marketing Services Office. A total of 58 medium staple American Upland lots was tested from the 1979 crop compared with 42 from the 1978 crop. Medium staple samples tested from the Southwest were slightly longer than the year before. Fibers were finer and weaker. Yarn strength and spinning potential were slightly higher than in the 1978-79 season. Yarn appearance was also higher.

The Western production area consists of California, Arizona, New Mexico, and far west Texas. A total of 109 medium staple samples was tested from the Western area in 1979 compared with 94 samples in 1978. Test results showed the 1979-crop cottons to have the same average length and length uniformity as a year earlier. Zero gage fiber strength was slightly lower but 1/8-inch gage strength was the same as last season. Yarns were stronger than in 1978 and had higher appearance grades. Spinning potential was slightly lower.

Group 3.--Long Staple Cottons

Twenty-three long staple American Upland spinning lots were tested in 1979 compared with 24 in 1978. Results from fiber measurements showed 1979-crop cottons to be longer, finer, and stronger at zero gage fiber strength than 1978-crop cottons. Shirley Analyzer non-lint content was lower than a year earlier but picker and card waste was slightly higher. Yarns spun from these samples were stronger with higher appearance grades. Spinning performance was better as indicated by the higher spinning potential yarn number.

Fourteen long staple American Upland spinning lots were tested in 1979 from the Southeastern area compared with 15 lots in 1978. Average test results showed the 1979-crop cottons to be longer and finer than the 1978-crop cottons. Length uniformity and fiber strength were the same as in the previous season. Manufacturing waste was higher. Yarns spun from these samples were slightly stronger than a year earlier but appearance grades were the same. Spinning potential was higher.

Three long staple American Upland spinning lots were tested from the South Central area in 1979, the same as a year earlier. South Central long staple samples had the same average length in 1979 as the year before but were more uniform. Fibers were finer and somewhat weaker. Yarn quality was better as indicated by the higher yarn strength, yarn appearance, and spinning potential.

Six long staple American Upland spinning lots were tested from the Western area in 1979, the same as in 1978. Western long staple cottons were shorter but more uniform than a year ago. Mike was the same as a year earlier, but fiber strength was higher. Both nonlint content and manufacturing waste were lower. Yarns spun from these samples were stronger and had higher appearance grades than in the previous season. Spinning potential was also higher.

Group 4.--Extra Long Staple

Eighteen extra long staple American Pima spinning lots were tested from the Western area in 1979, the same as a year earlier. Test results showed American Pima cottons to be shorter and less uniform than in the previous season. Fibers were coarser than a year ago. Fiber strength was about the same. Manufacturing waste was slightly lower than in the 1978-79 season. Yarn skein strength was the same as a year earlier but appearance grades were higher.

Table 1.--Cotton: Average results of classification, fiber, and processing tests from selected gin points, crops of 1978 and 1979.

Area and Crop Year	Lots Tested	Grade	Staple	Fiber Test Results						Processing Test Results				
				Fibrograph		Mike	Fiber Strength		S. A. Nonlint	P & C Waste	Skein Strength	Yarn Appearance	Yarn Neps	Spinning Potential
				2.5% Span Length	50/2.5 Unif.		Zero Gage	1/8" Gage			22s	22s	22s	
	No.	Index	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Lbs.	Index	No.	No.
SHORT STAPLE - American Upland														
Southwest														
1978	85	91	31.4	0.97	44	39	87	22	4.5	7.2	95	117	17	44
1979	84	93	32.0	1.00	45	35	83	22	3.7	6.1	101	111	41	49
MEDIUM STAPLE - American Upland														
Southeast														
1978	36	93	34.5	1.10	45	45	87	23	3.5	6.0	108	92	77	58
1979	39	89	34.9	1.09	45	44	83	23	3.6	7.2	102	97	111	55
South Central														
1978	124	93	34.5	1.09	45	46	86	23	3.5	6.5	100	95	55	51
1979	98	93	35.6	1.12	45	42	84	23	3.2	6.6	112	98	100	62
Southwest														
1978	42	93	33.2	1.04	45	42	89	23	3.6	6.4	99	83	78	50
1979	58	93	33.3	1.05	45	39	84	22	3.4	7.3	101	93	101	52
West														
1978	94	96	35.3	1.11	45	43	93	25	2.9	5.7	116	86	104	66
1979	109	98	35.3	1.11	45	44	91	25	2.2	6.3	117	97	103	62
Average														
1978	296	94	34.6	1.09	45	44	89	24	3.3	6.2	106	90	78	56
1979	304	94	35.0	1.10	45	42	86	23	2.9	6.7	110	97	103	59

Table 1.--Continued

Area and Crop Year	Lots Tested	Grade	Staple	Fiber Test Results						Processing Test Results				
				Fibrograph		Mike	Fiber Strength		S. A. Nonlint	P & C Waste	Skein Strength	Yarn Appearance	Yarn Neps	Spinning Potential
				2.5% Span Length	50/2.5 Unif.		Zero Gage	1/8" Gage			22s	22s	22s	
	No.	Index	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Lbs.	Index	No.	No.
LONG STAPLE - American Upland														
Southeast														
1978	15	94	35.1	1.12	44	44	85	24	3.4	7.7	108	106	17	59
1979	14	90	35.6	1.13	44	43	85	24	3.4	8.2	109	106	24	64
South Central														
1978	3	91	36.0	1.18	43	42	91	26	4.3	8.7	110	93	37	66
1979	3	87	37.3	1.18	45	39	88	24	4.4	8.7	127	120	29	79
West														
1978	6	90	36.0	1.14	43	37	88	25	3.6	8.5	116	90	28	73
1979	6	99	36.5	1.13	44	37	93	27	2.4	7.3	134	107	31	83
Average														
1978	24	92	35.4	1.13	44	42	87	25	3.6	8.0	110	101	27	63
1979	23	92	36.1	1.14	44	41	88	25	3.3	8.1	118	108	27	71
U.S. UPLAND AVERAGE														
1978	405	93	34.0	1.07	45	43	88	23	3.6	6.5	104	96	52	54
1979	411	94	34.4	1.08	45	41	86	23	3.2	6.6	109	100	86	58
EXTRA LONG STAPLE - American Pima														Comber Waste
West				Array							50s Combed Yarn			
1978	18	4	45.9	1.48	33	37	102	34	3.4	7.7	65	116	46	15.3
1979	18	3	45.8	1.45	35	39	104	34	3.1	7.5	65	127	51	15.1

Table 2.--Cotton: Average results of classification, fiber tests, and carded yarn processing tests by state for American upland samples from selected gin points, crops of 1978 and 1979

Area state and crop year	Spinning lots tested	Classification		Fiber length		Micronaire	Fiber strength		Elongation 1/8"	Shirley Analyzer non-lint	Color of raw stock			Picker & card waste	Spinning Potential
		Grade	Staple	2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Grayness	Yellowness	Composite		
	No.	Index	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.	No.
SOUTHEAST															
Medium staple:															
Alabama															
1978	18	94	34.0	1.10	45	45	85	23	6.4	2.9	2	3	98	5.7	58
1979	22	91	35.0	1.09	46	44	82	23	7.6	3.4	2	3	98	6.6	59
Georgia															
1978	8	92	34.5	1.08	45	47	89	24	5.7	3.9	2	4	98	6.4	55
1979	9	84	34.2	1.07	44	45	82	21	6.4	4.1	4	4	86	8.5	46
North Carolina															
1978	4	88	35.8	1.10	46	42	90	24	6.0	6.2	2	2	98	7.5	65
1979	4	87	35.0	1.10	45	44	85	23	6.4	4.3	3	3	92	7.6	64
South Carolina															
1978	6	95	35.5	1.13	45	44	87	23	5.8	3.0	2	3	100	5.5	62
1979	4	92	36.0	1.11	44	45	86	22	6.3	2.9	4	4	90	6.7	45
Long staple:															
Alabama															
1978	6	94	34.5	1.11	45	44	85	25	5.9	2.8	2	4	97	7.6	59
1979	5	89	35.6	1.13	44	42	85	24	7.0	3.1	2	3	96	8.0	69
Georgia															
1978	3	94	35.0	1.13	44	45	87	24	5.5	4.4	2	4	99	7.9	59
1979	3	88	35.3	1.12	43	47	85	24	6.9	4.3	4	4	89	8.9	60
North Carolina															
1978	3	95	35.0	1.10	44	43	86	25	5.7	2.5	2	3	99	7.3	53
1979	3	94	35.3	1.14	44	44	85	24	6.5	2.3	3	3	95	7.1	63
South Carolina															
1978	3	91	36.3	1.16	45	41	84	24	5.9	4.6	2	2	99	8.2	65
1979	3	91	36.3	1.12	43	39	85	23	6.3	4.2	3	3	94	9.2	61
SOUTH CENTRAL															
Medium staple:															
Arkansas															
1978	30	94	34.8	1.10	45	46	85	23	6.4	3.1	2	3	99	6.3	53
1979	20	95	35.6	1.12	45	43	84	23	7.1	2.7	1	3	101	6.2	60
Louisiana															
1978	23	92	34.3	1.08	45	48	87	23	6.0	3.3	2	3	97	6.4	48
1979	16	91	35.2	1.10	44	41	83	23	7.1	3.4	1	3	99	6.8	59
Mississippi															
1978	51	90	34.6	1.10	44	45	88	23	6.1	4.1	2	3	97	6.9	52
1979	48	93	35.5	1.12	45	42	83	22	7.2	3.4	2	3	100	6.9	63
Missouri															
1978	11	94	34.7	1.08	45	43	84	23	6.4	3.1	2	3	100	5.9	52
1979	6	94	36.0	1.10	45	44	86	23	6.9	2.7	1	3	101	5.9	64
Tennessee															
1978	9	95	33.7	1.06	45	48	86	22	6.2	2.9	2	4	99	6.0	46
1979	8	94	35.2	1.10	45	39	84	23	7.2	2.9	1	3	101	6.3	62

Table 2.--Continued

Area, State, and Crop Year	Spinning Lots Tested	Yarn Strength		Yarn Elongation		Yarn Appearance		Yarn Neps		Color 22s Bleached Yarn			Color 22s Dyed Yarn		
		22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
	No.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd	+b	Index	Rd	-b	Index
SOUTHEAST															
Medium staple:															
Alabama			50's		50's		50's		50's						
1978	18	107	35	6.2	4.6	97	73	52	189	83.6	3.4	100	26.7	26.3	105
1979	22	108	37	7.0	5.6	100	68	110	344	83.5	3.6	100	26.4	24.2	98
Georgia															
1978	8	105	35	5.8	4.3	90	70	98	238	83.5	3.6	99	26.9	25.8	103
1979	9	87	29	5.6	4.6	89	62	111	403	83.3	3.8	98	27.6	23.6	93
North Carolina															
1978	4	117	41	6.3	4.8	88	68	93	271	83.4	3.4	100	25.8	26.2	107
1979	4	108	36	6.4	4.8	105	65	90	286	83.2	3.5	99	26.6	24.1	97
South Carolina															
1978	6	109	37	6.0	4.5	82	63	113	341	83.7	3.1	102	26.9	26.2	105
1979	4	93	31	5.5	4.1	92	62	134	479	84.0	3.0	103	27.5	24.0	95
Long staple:															
Alabama															
1978	6	108	36	5.8	4.4	107	82	17	23	83.1	3.5	99	27.1	26.0	104
1979	5	115	41	6.6	5.4	116	84	26	136	83.8	3.4	101	26.9	24.2	97
Georgia															
1978	3	109	36	5.7	4.4	110	87	15	17	84.0	3.3	102	26.7	26.4	106
1979	3	104	35	5.9	4.8	117	93	19	177	82.4	3.6	96	27.1	24.0	96
North Carolina															
1978	3	103	33	5.6	4.0	110	70	13	21	83.2	3.4	99	26.6	26.3	106
1979	3	108	37	6.4	5.4	120	90	17	97	83.6	3.5	100	27.1	23.7	95
South Carolina															
1978	3	114	40	6.1	4.7	100	73	25	39	83.8	3.3	101	26.5	26.3	106
1979	3	105	36	6.0	4.6	103	63	33	281	84.4	3.4	102	27.5	23.6	93
SOUTH CENTRAL															
Medium staple:															
Arkansas															
1978	30	102	33	6.1	4.6	93	71	60	238	83.3	3.2	101	26.8	26.4	106
1979	20	111	37	6.9	5.4	102	69	89	321	83.6	3.3	101	26.3	24.9	101
Louisiana															
1978	23	95	30	5.7	4.2	100	73	48	228	82.9	3.3	99	27.2	26.0	104
1979	16	107	36	6.7	5.2	92	65	112	384	83.6	3.2	101	26.9	24.6	98
Mississippi															
1978	51	103	34	6.0	4.4	95	71	50	223	83.5	3.2	101	26.9	26.2	105
1979	48	111	39	7.1	5.6	97	65	103	365	83.8	3.2	102	26.4	24.5	99
Missouri															
1978	11	102	33	6.3	4.5	87	68	77	266	84.0	3.1	102	26.5	26.5	107
1979	6	115	38	6.8	5.2	103	75	93	234	83.0	3.4	99	26.8	25.8	104
Tennessee															
1978	9	97	30	5.9	4.3	99	69	52	198	83.0	3.5	99	26.8	26.5	107
1979	8	116	40	7.2	5.6	106	66	87	262	84.2	3.6	100	26.2	24.1	98

Table 2.--Continued

Area state and crop year	Spinning lots tested	Classification		Fiber length		Micronaire	Fiber strength		Elongation 1/8"	Shirley Analyzer non-lint	Color of raw stock			Picker & card waste	Spinning Potential
		Grade	Staple	2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Grayness	Yellowness	Composite		
	No.	Index	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.	No.
SOUTH CENTRAL (Continued)															
Long staple:															
Mississippi															
1978	3	91	36.0	1.18	43	42	91	26	5.3	4.3	2	2	98	8.7	66
1979	3	87	37.3	1.18	45	39	88	24	6.2	4.4	2	3	98	8.7	79
SOUTHWEST															
Short staple:															
Central Texas															
1978	18	95	29.9	.95	45	42	93	21	5.2	4.0	2	4	98	7.0	38
1979	27	92	33.1	1.03	45	42	83	21	7.2	3.7	2	4	100	6.2	51
Northwest Texas															
1978	53	89	31.8	.99	44	37	85	22	6.9	4.8	3	3	95	7.4	46
1979	51	93	31.2	.99	45	32	84	22	7.6	3.8	1	4	101	6.4	47
Oklahoma															
1978	11	94	31.9	.99	44	43	86	22	6.9	4.2	2	4	98	6.9	45
1979	3	94	32.3	1.00	45	34	82	23	8.2	3.1	1	4	101	5.6	51
Medium staple:															
South Texas															
1978	24	95	33.7	1.06	46	44	88	23	5.4	3.2	2	3	100	5.8	53
1979	32	93	33.9	1.06	46	42	84	22	6.3	3.2	2	4	98	6.9	56
Central Texas															
1978	12	94	32.5	1.02	45	43	89	22	5.5	3.6	2	4	98	6.6	45
1979	6	94	35.3	1.10	45	45	84	23	7.2	2.5	1	4	102	5.8	62
Northwest Texas															
1978	6	88	32.7	1.00	43	36	89	24	6.4	4.9	3	4	95	8.1	45
1979	20	94	31.8	1.01	44	30	85	23	7.2	4.0	1	5	102	8.5	44
WEST															
Medium staple:															
1978	31	95	34.8	1.10	44	46	88	23	6.2	2.9	1	3	101	5.9	51
1979	37	100	34.8	1.09	44	46	86	23	6.9	2.2	0	3	105	6.4	50
California															
1978	63	96	35.5	1.12	46	42	96	26	5.7	2.8	1	3	101	5.5	73
1979	72	98	35.6	1.12	45	43	94	26	6.3	2.2	1	3	103	6.2	68
Long staple:															
New Mexico															
1978	3	95	37.0	1.17	45	38	91	27	6.3	3.4	1	3	101	7.6	90
1979	3	98	36.3	1.14	44	35	92	27	6.7	2.7	0	3	104	7.9	88

Table 2.--Continued

Area, State, and Crop Year	Spinning Lots Tested	Yarn Strength		Yarn Elongation		Yarn Appearance		Yarn Neps		Color 22s Bleached Yarn			Color 22s Dyed Yarn		
		22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
	No.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd	+b	Index	Rd	-b	Index
SOUTH CENTRAL (Continued)															
Long Staple:															
Mississippi			50's		50's		50's		50's						
1978	3	110	38	5.5	4.3	93	70	37	45	83.7	3.1	102	26.2	26.2	106
1979	3	127	46	6.8	5.7	120	83	29	157	83.3	3.5	99	26.9	24.0	96
SOUTHWEST															
Short staple:															
Central Texas			8's		8's		8's		8's						
1978	18	94	280	5.8	6.6	118	121	18	4	83.7	3.4	100	27.3	26.1	104
1979	27	102	308	7.1	8.1	113	121	44	7	83.8	3.4	100	26.6	24.4	98
Northwest Texas															
1978	53	95	288	6.8	7.7	115	124	16	3	83.7	3.7	99	27.3	25.4	101
1979	51	100	307	7.2	8.2	110	116	41	11	83.4	3.9	98	26.6	23.7	96
Oklahoma															
1978	11	93	283	6.4	7.3	121	125	17	3	83.2	3.5	99	27.2	26.1	104
1979	3	101	308	7.4	8.3	120	127	26	7	83.1	3.8	97	26.2	24.1	98
Medium staple:															
South Texas			50's		50's		50's		50's						
1978	24	104	33	5.8	4.3	82	63	88	333	84.2	3.2	102	26.8	26.3	106
1979	32	100	32	6.1	4.5	101	67	100	303	84.2	3.2	102	26.5	24.6	99
Central Texas															
1978	12	94	30	5.7	4.5	84	70	70	285	84.0	3.2	102	27.2	26.2	104
1979	6	111	38	6.9	5.4	107	70	76	278	83.9	3.2	102	26.5	25.4	103
Northwest Texas															
1978	6	96	31	6.0	4.8	87	62	57	243	83.4	3.8	99	27.3	25.2	100
1979	20	100	33	6.6	5.4	7	60	111	420	83.6	3.9	98	27.2	23.4	93
WEST															
Medium staple:															
Arizona															
1978	31	99	34	5.9	4.5	91	66	69	324	83.5	3.2	101	27.1	26.1	104
1979	37	101	33	6.2	5.0	101	65	71	343	83.4	3.2	101	26.7	24.7	100
California															
1978	63	124	44	6.2	4.9	83	63	121	337	83.5	3.2	101	26.8	25.8	103
1979	72	125	46	6.4	5.3	96	65	120	354	83.0	3.3	99	26.8	24.1	97
Long staple:															
New Mexico															
1978	3	131	47	6.4	5.2	87	67	35	46	84.4	3.2	103	27.1	25.4	102
1979	3	135	50	6.7	5.5	107	73	33	241	84.2	3.0	103	25.9	24.1	99

Table 3.--Cotton: Average results of fiber and carded yarn processing tests by grade and staple combinations for American upland samples from selected gin points, crop of 1979

Staple group, area, grade and staple			Spinning lots tested	Fiber length		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer non-lint	Color of raw stock			Picker & card waste	Spinning Poten-tial
				2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Gray-ness	Yellow-ness	Com-posite		
Name	Code	32d in.	No.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.	No.
SHORT STAPLE GROUP															
Southwest															
Mid	31	31	3	.95	45	42	82	21	8.2	2.0	1	4	103	5.0	40
		32	6	1.00	44	36	84	22	7.4	3.1	0	4	104	5.4	50
Mid Lt Sp	32	31	5	.99	44	29	85	22	7.7	2.9	1	5	103	5.8	49
		32	8	1.01	45	33	84	22	7.7	3.2	1	4	102	6.7	48
SLM	41	32	5	1.01	45	36	86	22	7.4	3.4	1	4	102	5.9	52
		33	10	1.03	45	42	84	22	7.3	3.4	2	4	100	5.7	51
		34	3	1.03	44	41	82	22	7.3	4.1	2	4	101	5.9	53
SLM Lt Sp	42	29	4	.92	46	31	83	21	7.4	5.2	2	4	100	7.9	36
		30	4	.98	45	30	82	22	7.8	4.4	2	5	98	7.1	44
		31	5	.99	45	28	80	22	7.9	4.3	2	5	101	6.8	48
		32	6	1.00	45	31	82	22	7.7	4.4	2	5	100	6.6	51
		33	8	1.04	45	40	83	21	7.1	3.8	2	4	99	6.4	51
MEDIUM STAPLE GROUP															
Southeast															
SLM	41	34	5	1.08	46	44	81	22	8.0	2.4	2	3	100	6.1	57
		35	6	1.10	46	47	82	23	7.6	2.8	2	4	97	6.2	59
		36	4	1.10	45	42	86	23	7.2	2.7	2	3	100	6.0	59
SLT Lt Sp	42	34	5	1.06	45	45	82	21	6.7	3.6	3	4	91	7.5	51
		35	4	1.11	44	45	86	24	6.8	4.3	3	4	91	7.0	57
LM	51	35	4	1.09	45	43	84	23	6.6	4.8	3	3	93	8.0	57
		36	3	1.11	47	42	78	23	7.9	5.3	2	3	96	7.8	62
South Central															
Mid	31	35	5	1.10	45	45	87	22	6.6	1.8	1	3	103	5.7	57
SLM	41	35	28	1.11	45	43	83	23	7.2	2.9	1	3	101	6.4	59
		36	29	1.13	45	43	84	23	7.3	2.8	1	3	101	6.1	64
SLM Lt Sp	42	35	3	1.08	43	30	81	23	7.8	5.1	1	4	101	8.4	58
LM+	50	36	8	1.12	45	42	85	23	6.6	3.7	1	3	101	7.2	64
LM	51	35	4	1.09	44	37	82	23	7.0	4.7	2	2	98	7.9	55
		36	9	1.12	44	40	84	23	7.1	4.9	2	3	99	7.7	65

Table 3.--Continued

Staple group, area, grade and staple			Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Color 22s bleached yarn			Color 22s dyed yarn		
				22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
Name	Code	32d in.	No.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd	+b	Index	Rd	-b	Index
SHORT STAPLE GROUP																	
Southwest					8s		8s		8s		8s						
Mid	31	31	3	97	301	7.4	8.6	117	117	47	9	84.1	3.5	101	25.2	25.2	104
		32	6	105	306	7.0	8.2	110	118	44	8	83.8	3.6	100	25.8	24.5	100
Mid Lt Sp	32	31	5	99	306	7.2	8.1	110	116	46	12	84.4	3.8	101	26.7	23.6	95
		32	8	100	307	7.2	8.0	110	121	42	13	83.5	3.8	98	26.6	23.7	96
SLM	41	32	5	106	319	7.2	8.7	116	122	30	5	83.0	3.7	98	26.2	24.3	99
		33	10	102	311	7.1	8.3	114	121	39	7	83.8	3.5	100	26.4	24.4	99
		34	3	104	317	7.2	8.3	117	120	49	6	83.3	3.5	99	26.5	24.5	99
SLM Lt Sp	41	29	4	90	283	6.7	7.7	108	108	52	18	83.4	4.0	97	26.9	23.4	94
		30	4	99	302	7.4	8.3	110	118	40	12	82.7	4.4	94	27.0	23.2	93
		31	5	102	310	7.3	8.1	102	108	53	12	83.7	4.2	97	27.3	23.0	92
		32	6	103	319	7.4	8.5	115	118	40	12	83.3	4.2	96	26.8	23.2	93
		33	8	100	306	7.0	7.9	111	122	36	8	83.1	3.7	98	26.7	24.1	97
MEDIUM STAPLE GROUP																	
Southeast					50s		50s		50s		50s						
SLM	41	34	5	101	34	7.1	5.5	108	70	55	268	84.0	3.5	101	27.0	24.2	97
		35	6	110	38	6.8	5.6	100	68	113	351	83.8	3.6	100	26.4	24.3	98
		36	4	112	39	6.8	5.4	108	68	92	314	83.4	3.6	99	25.9	24.4	100
SLM Lt Sp	42	34	5	92	30	6.1	4.7	102	66	90	293	83.4	4.1	97	27.0	23.8	95
		35	4	100	34	5.8	4.6	82	60	194	536	83.4	3.3	100	27.1	23.8	96
LM	51	35	4	106	36	6.4	4.9	92	62	139	374	83.0	3.4	99	26.9	23.9	96
		36	3	115	41	7.6	6.1	100	73	121	351	83.2	3.4	99	25.9	24.5	100
South Central																	
Mid	31	35	5	110	36	6.5	5.1	104	70	53	250	83.3	3.5	99	26.6	25.3	102
SLM	41	35	28	109	37	6.9	5.4	104	69	93	345	83.9	3.2	102	26.6	24.7	100
		36	29	115	39	7.2	5.6	99	67	92	314	83.7	3.3	101	26.4	25.0	101
SLM Lt Sp	42	35	3	106	36	7.1	5.7	73	60	115	406	84.1	3.3	102	26.5	23.9	97
LM+	50	36	8	113	39	6.8	5.4	90	64	102	318	83.6	3.2	101	26.0	24.6	100
LM	51	35	4	102	36	6.4	5.2	80	62	176	438	82.2	3.2	98	27.3	23.6	94
		36	9	112	39	7.0	5.6	92	62	115	378	83.9	3.1	102	26.3	24.3	99

Table 3.--Continued

Staple group, area, grade and staple			Spinning lots tested	Fiber length		Micronaire	Fiber strength		Elongation 1/8"	Shirley Analyzer non-lint	Color of raw stock			Picker & card waste	Spinning Potential
				2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Grayness	Yellowness	Composite		
Name	Code	32d in.	No.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.	No.
MEDIUM STAPLE GROUP (Continued)															
Southwest															
Mid Lt Sp	32	31	4	.98	44	29	82	22	7.0	3.4	1	5	102	8.1	39
SLM	41	32	5	1.02	44	35	84	22	6.9	3.5	1	4	103	7.6	46
		33	6	1.03	44	37	82	22	6.6	3.1	1	3	102	6.7	52
		34	13	1.07	46	41	88	22	6.0	3.2	1	4	101	7.0	57
		35	6	1.09	47	46	85	23	6.5	3.5	2	4	100	6.8	60
		36	3	1.13	44	45	82	23	7.6	2.1	1	3	102	5.2	68
SLM Lt Sp	42	31	3	.98	44	29	82	21	7.4	4.5	2	5	100	9.2	37
West															
Mid	31	34	11	1.08	44	47	87	23	6.7	2.2	0	3	105	6.7	49
		35	38	1.10	44	46	89	24	6.7	1.9	0	3	104	6.0	56
		36	25	1.12	45	42	94	26	6.3	1.9	0	3	104	5.9	70
SLM+	40	36	6	1.13	46	42	96	26	6.3	2.8	1	3	104	6.4	74
SLM	41	35	3	1.08	44	39	94	25	6.1	2.5	2	3	100	6.8	57
		36	17	1.13	46	42	93	26	6.2	2.5	1	3	102	6.4	72
LONG STAPLE GROUP															
Southeast															
SLM	41	36	4	1.12	44	42	85	23	6.6	2.9	3	4	95	7.8	63
LM	51	35	3	1.13	44	42	84	24	6.7	4.0	3	3	93	8.6	64
West															
Mid	31	37	3	1.13	45	38	95	27	6.6	2.2	0	3	105	7.0	85

Table 3.--Continued

Staple group, area, grade and staple			Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Color 22s bleached yarn			Color 22s dyed yarn		
				22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
Name	Code	32d in.	No.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd	+b	Index	Rd	-b	Index
MEDIUM STAPLE GROUP (Continued)																	
Southwest					50s		50s		50s		50s						
Mid Lt Sp	32	31	4	90	30	6.3	5.2	72	60	82	310	83.8	3.8	99	27.3	23.3	92
SLM	41	32	5	96	31	6.4	5.0	80	60	114	412	84.2	3.4	101	26.6	23.9	97
		33	6	96	30	6.2	4.4	87	65	79	320	84.6	3.3	103	26.8	24.4	98
		34	13	105	34	6.2	4.6	105	68	106	302	84.0	3.3	102	26.3	24.5	100
		35	6	108	35	6.3	4.8	105	67	133	349	84.0	3.3	102	25.8	24.9	102
		36	3	116	40	7.2	5.6	110	77	50	165	84.0	3.3	102	27.1	25.7	103
SLM Lt Sp	42	31	3	93	30	6.5	5.5	70	60	119	307	83.0	4.4	95	27.7	22.9	91
West																	
Mid	31	34	11	97	32	5.8	4.7	94	62	64	360	83.0	3.0	100	27.1	24.5	98
		35	38	110	37	6.3	5.0	102	66	80	327	83.3	3.2	100	26.7	24.5	99
		36	25	127	46	6.6	5.4	97	66	115	336	83.3	3.3	100	26.7	24.3	98
SLM+	40	36	6	132	48	6.6	5.7	98	65	138	374	82.5	3.4	98	26.5	24.1	98
SLM	41	35	3	117	41	6.3	5.1	83	63	145	481	82.8	3.3	99	27.4	23.7	94
		36	17	128	50	6.6	5.5	94	64	138	359	83.0	3.4	99	26.5	24.1	97
LONG STAPLE GROUP																	
Southeast																	
SLM	41	36	4	108	36	6.2	5.0	112	88	26	140	84.1	3.7	100	27.0	24.0	96
LM	51	35	3	111	38	6.4	5.1	110	73	28	161	83.7	3.2	101	27.6	23.9	94
West																	
Mid	31	37	3	137	51	6.7	5.4	107	83	33	185	83.7	3.3	101	25.8	24.4	100

Table 4.--Cotton: Average of classification, fiber tests, and yarn processing tests by variety for samples from selected 100 percent on variety gin points, crop of 1979

Processing Group, variety, and state	Spinning lots tested	Classification		Fiber length		Micronaire	Fiber strength		Elongation 1/8"	Shirley Analyzer non-lint	Color of raw stock			Picker & card waste	Spinning Potential
		Grade	Staple	2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Grayness	Yellowness	Composite		
	No.	Index	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.	No.
SHORT STAPLE															
GP 3774															
Central Texas	3	88	33.3	1.02	43	39	79	21	7.2	4.2	1	4	101	6.0	52
Lankart 611															
Central Texas	7	94	32.9	1.02	45	42	82	21	7.8	3.5	2	4	100	6.1	50
Paymaster 785															
Northwest Texas	3	91	29.0	.93	45	28	83	21	7.6	4.6	2	4	101	7.7	37
MEDIUM STAPLE															
Acala SJ-2															
California	24	97	35.8	1.11	45	42	93	26	6.2	2.2	1	3	103	6.2	68
Acala SJ-4															
California	3	100	35.3	1.12	46	42	97	28	6.1	1.6	1	4	103	5.5	78
Acala SJ-5															
California	3	97	36.0	1.12	45	41	100	27	6.4	2.1	1	3	103	6.0	74
Coker 304															
North Carolina	1	89	35.0	1.12	45	45	84	24	7.2	3.6	3	4	96	7.0	77
South Carolina	3	92	36.0	1.11	44	45	87	23	6.1	2.5	3	3	91	6.5	46
Coker 315															
Mississippi	3	87	37.0	1.17	45	40	88	25	6.9	4.6	2	2	99	7.8	69
Coker 420															
Alabama	3	89	35.0	1.12	46	44	87	25	7.1	5.2	2	4	97	7.3	63
Deltapine 16															
Arkansas	2	94	36.0	1.16	46	44	79	24	8.4	2.6	2	3	100	6.0	70
Deltapine 26															
Mississippi	3	98	35.7	1.12	45	40	86	24	7.6	2.2	0	2	104	5.6	69
Deltapine 41															
Mississippi	3	88	36.0	1.13	44	41	87	24	6.6	4.2	1	2	101	7.4	68
Deltapine 55															
Alabama	3	94	35.7	1.10	45	39	84	24	7.5	2.8	2	4	100	6.5	62
Louisiana	4	92	35.8	1.12	44	40	84	23	6.8	3.1	1	3	100	6.0	66
Mississippi	6	92	35.8	1.12	44	41	85	23	6.8	3.3	1	3	101	6.9	60
Deltapine 61															
Arkansas	3	94	36.0	1.16	44	41	80	23	8.3	3.5	1	3	101	6.6	68
Mississippi	6	95	35.8	1.14	44	42	80	23	8.2	2.2	1	3	102	5.8	67
California	5	100	34.2	1.07	44	47	87	25	6.9	2.1	0	3	105	6.6	46

Table 4.--Continued

Processing group, variety, and state	Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn Neps		Color 22s bleached yarn			Color 22s dyed yarn		
		22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
	No.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd	+b	Index	Rd	-b	Index
							Carded Yarns								
SHORT STAPLE			8s		8s		8s		8s						
GP 3774															
Central Texas	3	99	299	7.0	8.1	103	110	47	9	84.3	3.3	102	27.0	23.9	96
Lankart 611															
Central Texas	7	100	307	7.3	8.4	109	121	54	9	84.0	3.6	101	26.6	24.4	99
Paymaster 785															
Northwest Texas	3	91	286	7.0	8.2	107	110	53	21	83.8	3.8	99	26.6	23.8	96
MEDIUM STAPLE			50s		50s		50s		50s						
Acala SJ-2															
California	24	124	45	6.6	5.3	94	64	124	351	82.8	3.3	99	26.6	24.2	98
Acala SJ-4															
California	3	140	52	6.5	5.5	90	63	119	234	82.5	3.5	97	26.5	24.1	97
Acala SJ-5															
California	3	135	49	6.6	5.6	93	63	147	405	83.7	3.6	100	26.9	23.7	95
Coker 304															
North Carolina	1	114	40	6.7	5.4	100	60	110	310	83.9	3.8	99	26.3	24.3	99
South Carolina	3	98	32	5.6	4.2	97	63	113	433	84.0	3.1	102	27.5	24.0	95
Coker 315															
Mississippi	3	119	42	6.8	5.6	90	60	179	640	82.8	3.2	99	26.4	24.2	98
Coker 420															
Alabama	3	116	41	6.5	5.2	70	60	293	620	82.6	3.4	98	27.3	23.7	94
Deltapine 16															
Arkansas	2	114	40	7.6	6.0	95	70	102	347	84.0	3.2	102	25.6	24.9	102
Deltapine 26															
Mississippi	3	121	41	7.5	6.2	107	67	56	259	84.6	3.3	103	26.3	24.4	99
Deltapine 41															
Mississippi	3	120	41	7.2	5.5	87	63	80	305	83.5	3.0	101	25.7	25.0	103
Deltapine 55															
Alabama	3	119	42	7.0	5.9	100	67	92	345	83.2	3.8	98	25.7	24.2	99
Louisiana	4	113	39	6.9	5.3	92	62	68	364	84.2	3.2	102	26.9	25.1	101
Mississippi	6	113	38	6.9	5.5	85	62	84	383	84.0	3.3	102	26.1	24.4	99
Deltapine 61															
Arkansas	3	117	40	7.6	6.1	87	63	138	491	84.1	3.0	103	25.8	24.6	101
Mississippi	6	116	40	7.7	6.1	90	60	95	376	84.2	3.2	102	26.3	24.4	99
California	5	96	30	5.7	4.6	86	60	70	433	83.0	3.2	100	27.8	23.9	94

Table 4.--Continued

Processing group, variety, and state	Spinning lots tested	Classification		Fiber length		Micronaire	Fiber strength		Elongation 1/8"	Shirley Analyzer non-lint	Color of raw stock			Picker & card waste	Spinning Potential
		Grade	Staple	2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Grayness	Yellowness	Composite		
	No.	Index	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.	No.
MEDIUM STAPLE (Continued)															
DES 24															
Mississippi	3	90	35.7	1.13	45	43	84	24	7.5	3.5	2	3	98	6.9	62
DES 56															
Mississippi	3	88	35.7	1.12	45	40	85	23	6.6	4.7	2	3	96	7.5	58
Dixie King III															
Alabama	3	88	36.0	1.10	47	40	81	23	7.7	4.9	2	3	98	7.4	63
Georgia	3	86	34.0	1.04	46	47	80	22	7.0	3.5	4	4	90	8.2	46
McNair 220															
North Carolina	3	87	35.0	1.09	45	44	85	23	6.2	4.5	3	3	91	7.8	59
Rex 713															
Arkansas	3	96	35.3	1.11	43	38	81	21	7.0	2.1	1	3	103	5.8	63
Stoneville 213															
Alabama	3	88	34.7	1.06	45	43	83	22	7.4	2.9	2	3	98	7.1	50
Arkansas	6	94	35.7	1.10	46	47	86	23	6.8	2.8	1	3	100	6.2	56
Louisiana	4	90	35.0	1.08	46	43	84	23	6.9	3.9	2	3	96	7.2	51
Mississippi	9	91	35.6	1.11	45	42	82	22	7.3	3.9	1	3	100	7.1	59
South Texas	3	95	34.0	1.04	48	45	82	22	6.8	2.5	1	4	102	6.1	52
Arizona	3	98	33.7	1.06	44	39	80	22	7.7	3.1	1	4	103	8.0	36
Stoneville 256															
Mississippi	3	93	35.7	1.12	45	42	86	23	6.4	3.6	1	3	101	7.4	65
Arizona	3	100	34.7	1.11	44	45	88	22	6.6	2.0	0	4	106	6.2	57
Stoneville 825															
Louisiana	4	91	35.2	1.10	44	42	84	23	6.2	3.3	1	3	100	7.0	56
Mississippi	3	87	35.7	1.13	46	44	87	23	6.1	4.5	1	3	100	7.4	61
Arizona	3	100	34.7	1.07	43	49	87	21	5.4	2.0	0	3	105	6.5	44
TPSA 9070															
South Texas	3	94	34.3	1.08	46	43	90	21	5.2	3.6	2	4	101	7.6	56
Vail 7															
Arkansas	3	100	35.0	1.10	45	47	90	21	6.1	1.8	1	3	102	6.0	50
LONG STAPLE															
Coker 310															
Alabama	5	89	35.6	1.13	44	42	85	24	7.0	3.1	2	3	96	8.0	69
Georgia	3	88	35.3	1.12	43	47	85	24	6.9	4.3	4	4	89	8.9	60
Mississippi	3	87	37.3	1.18	45	39	88	24	6.2	4.4	2	3	98	8.7	79
Acala 1517-EL															
Arizona	3	100	36.7	1.12	45	39	95	26	6.6	2.2	0	4	105	6.6	78
EXTRA LONG STAPLE															
Pima S-5				Array											
Arizona	9	3	46.0	1.48	34	40	104	35	7.9	3.2	3	6	93	7.3	
New Mexico	3	4	44.7	1.41	36	37	104	35	7.6	3.4	4	6	86	8.4	

Table 4.--Continued

Processing group, variety, and state	Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn Neps		Color 22s bleached yarn			Color 22s dyed yarn		
		22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
	No.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd	+b	Index	Rd	-b	Index
MEDIUM STAPLE (Continued)						Carded Yarns									
			50s		50s		50s		50s						
Des 24															
Mississippi	3	114	39	7.3	5.4	100	67	118	401	83.3	3.3	100	27.0	25.6	102
Des 56															
Mississippi	3	111	37	6.8	5.1	103	70	92	284	82.9	3.4	99	27.1	25.2	101
Dixie King III															
Alabama	3	116	41	7.6	6.1	97	70	135	351	82.9	3.4	99	26.0	24.2	99
Georgia	3	91	31	6.0	4.9	93	67	91	271	82.9	4.3	95	27.2	23.5	93
McNair 220															
North Carolina	3	106	34	6.3	4.6	107	67	83	278	82.9	3.4	99	26.7	24.0	97
Rex 713															
Arkansas	3	108	36	6.9	5.4	107	67	53	272	84.3	3.2	103	26.3	24.3	98
Stoneville 213															
Alabama	3	103	35	6.8	5.5	100	63	62	333	83.7	3.6	100	26.3	24.3	99
Arkansas	6	109	36	6.7	5.3	110	72	92	295	83.4	3.2	100	26.6	25.2	101
Louisiana	4	101	33	6.4	4.9	98	72	130	318	82.6	3.5	98	28.0	24.7	97
Mississippi	9	108	36	6.9	5.5	96	66	121	368	84.2	3.2	103	26.4	24.3	98
South Texas	3	100	31	6.3	4.5	117	73	98	249	84.4	3.1	104	26.8	24.6	99
Arizona	3	95	29	6.1	5.5	97	60	110	483	83.7	3.4	100	26.7	24.3	98
Stoneville 256															
Mississippi	3	115	41	6.8	5.3	90	63	108	341	83.9	3.3	102	26.5	24.5	99
Arizona	3	105	36	6.4	5.0	107	67	73	279	83.1	3.3	99	25.6	25.1	103
Stoneville 825															
Louisiana	4	103	35	6.1	4.9	85	60	155	472	83.1	3.2	100	26.4	24.4	99
Mississippi	3	111	40	6.3	5.3	97	63	132	376	83.3	3.1	101	26.1	24.6	100
Arizona	3	91	29	5.3	4.4	97	63	54	304	83.6	3.2	101	26.5	24.6	99
TPSA 9070															
South Texas	3	103	32	5.7	4.2	100	67	77	176	84.0	3.4	101	26.3	24.4	99
Vail 7															
Arkansas	3	106	33	6.2	4.6	107	73	57	237	82.8	3.7	97	27.0	25.8	103
LONG STAPLE															
Coker 310															
Alabama	5	115	41	6.6	5.4	116	84	26	136	83.8	3.4	101	26.9	24.2	97
Georgia	3	104	35	5.9	4.8	117	93	19	177	82.4	3.6	96	27.1	24.0	96
Mississippi	3	127	46	6.8	5.7	120	83	29	157	83.3	3.5	99	26.9	24.0	96
Acala 1517-EL															
Arizona	3	132	49	6.5	5.4	107	80	29	171	83.1	3.2	100	25.9	24.4	100
EXTRA LONG STAPLE						Combed Yarns									
		50s	80s	50s	80s	50s	80s	50s	80s	50s	50s	50s	50s	50s	50s
Pima S-5															
Arizona	9	66	35	5.7	4.9	128	116	52	176	82.1	3.5	96	26.1	25.0	102
New Mexico	3	63	34	5.8	5.1	130	120	40	120	81.7	3.7	95	25.6	24.9	102

Table 5.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1979

State, Production Area, Chronological sampling and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
	Grade	Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH WEST CENTRAL TEXAS														
BRANDON			LANKART 611				100 PERCENT							
M	31	33	1.01	44	39	79	21	8.1	1.9	3.0	1	4	102	5.7
SLM	41	33	1.02	46	39	83	21	8.1	2.2	3.4	1	4	101	5.8
SLM	41	33	1.02	45	41	79	21	8.2	1.7	3.0	2	4	100	5.4
BYNUM			LANKART 611				100 PERCENT							
SLM	41	32	1.03	45	46	87	21	6.9	1.5	2.3	1	4	101	5.3
SLM	41	33	1.03	46	41	84	22	7.4	2.8	4.6	2	4	101	6.3
1/ LM	51	33	1.04	47	43	82	21	7.7	3.5	4.9	3	4	96	7.3
SLM	41	33	1.00	45	46	81	21	8.4	2.5	3.5	2	4	98	6.6
COMMERCE			LANKART 57				99 PERCENT							
M	31	32	0.99	44	37	81	21	7.8	2.8	4.3	2	4	98	6.7
SLM	41	33	1.03	46	42	87	21	6.5	2.2	3.3	2	3	101	5.6
SLM	41	33	1.01	44	42	87	22	7.2	2.0	3.0	1	3	101	5.3
M	31	33	1.02	44	41	82	22	7.1	1.0	1.7	1	4	103	5.2 2/
COVINGTON			LANKART LX571				97 PERCENT							
SLM	41	33	1.05	46	47	86	21	6.5	2.0	2.9	2	4	98	6.0
SLM	41	34	1.06	45	43	84	23	7.2	2.2	3.3	2	4	101	5.8
SLM	41	34	1.03	44	40	83	22	7.3	3.2	4.9	2	4	98	6.1
FERRIS			TAMCOT SP-37				90 PERCENT							
SGO	61	33	1.06	42	41	84	20	6.8	5.7	7.1	2	3	96	8.7
SLM	41	33	1.05	43	43	81	21	6.9	2.8	3.7	2	3	100	5.6
SLM	41	33	1.05	45	46	82	22	7.1	2.6	3.4	2	4	101	5.6
SLM LT SP	42	33	1.04	45	45	94	22	6.6	2.7	3.9	2	4	97	6.9
GRANDVIEW			GP 3774				100 PERCENT							
SLM	41	34	1.01	42	39	80	21	7.5	3.1	4.1	1	4	104	5.9
LM LT SP	52	33	1.01	41	39	80	21	6.8	3.5	5.3	2	4	97	6.7
SLM LT SP	42	33	1.05	45	38	78	21	7.3	2.0	3.1	1	4	101	5.5 2/
ROSEBUD			LANKART LX571				95 PERCENT							
SLM LT SP	42	34	1.03	44	39	80	21	6.7	2.0	2.9	2	4	99	6.1
M LT SP	32	33	1.05	45	44	82	21	7.0	1.5	2.8	2	4	100	4.7
1/ LM	51	34	1.08	43	40	79	22	7.0	1.8	2.6	1	3	102	7.5

1/ Reduced from 41 because of bark.
2/ Cotton stuck to processing rolls.

Table 5a.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1979.

State, Production Area Chronological sampling and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color - 22s gray yarn			Color-22s blchd.yarn			Color - 22s dyed yarn		
		8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex		Reflectance	Yellowness	Composite	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
Grade	Staple																		
Name Code	32d in.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	R_d	+b	Index	R_d	+b	Index	R_d	-b	Index
SOUTH WEST CENTRAL TEXAS																			
BRANDON			LANKART 611					100 PERCENT											
M	31	33	312	100	8.3	7.6	130	110	10	58	51	68.7	11.4	95	84.4	3.3	103	26.2	24.7	100
SLM	41	33	318	103	8.9	7.8	120	100	4	50	51	68.0	11.5	94	84.9	3.5	103	26.1	24.5	100
SLM	41	33	295	97	8.9	7.5	120	110	16	50	51	68.8	11.0	94	83.9	3.9	99	27.3	24.1	96
BYNUM			LANKART 611					100 PERCENT											
SLM	41	32	312	104	7.7	6.8	130	120	0	32	51	68.6	11.2	94	83.3	3.4	100	26.5	24.5	99
SLM	41	33	314	105	8.5	7.0	120	110	12	58	50	68.3	11.7	95	84.0	3.5	101	26.4	24.4	99
1/ LM	51	33	299	98	8.1	7.2	110	100	12	72	49	66.8	11.3	90	83.7	4.2	97	27.1	24.0	96
SLM	41	33	302	96	8.6	7.2	120	110	8	60	49	67.4	11.5	92	83.9	3.1	102	26.4	24.9	101
COMMERCE			LANKART 57					99 PERCENT											
M	31	32	301	100	8.4	7.4	110	100	28	130	46	65.9	12.0	91	84.3	3.7	101	26.9	24.2	97
SLM	41	33	314	107	8.0	7.3	120	110	8	34	52	68.6	11.1	94	83.9	3.7	100	26.2	24.5	100
SLM	41	33	299	98	7.6	6.3	120	120	2	36	51	68.9	11.0	94	84.1	2.9	103	27.0	24.4	98
M	31	33	313	102	7.7	6.5	120	130	2	28	50	70.3	11.3	98	83.9	2.8	103	27.0	24.2	97
COVINGTON			LANKART LX571					97 PERCENT											
SLM	41	33	316	102	7.2	6.8	120	130	0	22	51	67.6	11.9	94	83.3	3.9	98	25.9	24.9	102
SLM	41	34	327	107	8.5	7.4	130	130	6	16	52	68.4	11.9	96	83.8	3.7	100	25.8	25.0	102
SLM	41	34	326	107	8.7	6.8	130	120	4	64	55	67.5	11.3	92	81.9	3.3	97	26.9	24.2	97
FERRIS			TAMCOT SP-37					90 PERCENT											
SGO	61	33	321	105	8.5	6.9	120	120	4	42	52	69.5	11.0	95	84.0	3.4	101	26.5	24.5	99
SLM	41	33	303	99	7.8	6.5	130	120	6	14	50	70.3	11.3	98	83.5	3.4	100	25.9	25.0	102
SLM	41	33	313	103	8.7	7.2	130	120	1	32	52	69.4	11.2	96	82.9	3.2	99	26.3	24.6	100
SLM LT SP	42	33	283	92	7.2	6.0	120	120	2	46	49	67.2	11.6	92	83.7	3.0	102	27.6	24.3	96
GRANDVIEW			GP 3774					100 PERCENT											
SLM	41	34	297	99	7.8	7.3	100	100	8	66	51	71.1	11.5	100	84.1	3.4	101	26.7	24.2	97
LM LT SP	52	33	280	94	8.0	6.9	110	110	6	26	50	67.5	11.6	93	84.4	3.6	101	27.6	23.5	93
SLM LT SP	42	33	321	103	8.6	6.9	120	100	14	50	54	67.8	12.1	96	84.5	2.9	104	26.8	24.1	97
ROSEBUD			LANKART LX571					95 PERCENT											
SLM LT SP	42	34	320	109	8.0	7.0	120	100	8	20	55	66.5	11.6	90	84.2	4.0	99	27.2	23.6	94
M LT SP	32	33	307	103	8.5	7.0	120	120	4	38	52	68.2	11.8	95	83.7	3.4	101	27.0	23.6	94
LM	51	34	322	110	9.0	7.7	120	120	4	20	56	68.9	11.2	95	82.0	3.2	97	26.8	24.1	97

1/ Reduced from 41 because of bark.

Table 5.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1979

State, Production Area, Chronological sampling and Classification		Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH WEST													
CENTRAL TEXAS													
TEMPLE		LANKART 57				95 PERCENT							
SLM LT SP 42	33	1.05	46	43	82	21	7.2	2.8	4.1	2	4	98	6.3
SLM LT SP 42	33	1.03	45	45	84	21	6.9	2.7	3.9	2	4	98	6.7
SLM LT SP 42	33	1.05	46	43	82	21	6.9	2.6	4.1	2	4	100	7.0
NORTHWEST TEXAS													
BULA		TAMCOT SP-21				85 PERCENT							
SLM 41	32	1.01	45	30	84	24	7.6	2.8	4.3	1	4	104	6.0
SLM LT SP 42	30	0.98	47	31	86	22	7.1	3.3	4.4	2	5	99	7.4 1/
SLM LT SP 42	32	0.99	46	30	82	21	8.2	4.6	6.2	2	5	100	8.4 1/
CROWELL		LANKART 57				90 PERCENT							
SLM LT SP 42	33	1.04	45	36	83	22	7.4	2.7	4.0	2	4	99	6.7
SLM LT SP 42	32	1.01	45	36	84	20	7.6	2.7	3.7	2	5	99	6.4 1/
SLM LT SP 42	33	1.03	46	33	85	21	6.7	3.4	4.2	2	4	99	6.3
HALE CENTER		GSA 71				90 PERCENT							
SLM LT SP 42	32	0.98	47	32	83	22	7.7	2.9	4.4	3	5	97	6.8
SLM LT SP 42	30	0.98	44	28	81	22	8.0	2.8	4.6	3	6	97	7.3 1/
SLM LT SP 42	31	1.00	43	27	79	23	8.3	2.7	4.0	2	5	98	6.7 1/
HEDLEY		LANKART LX571				80 PERCENT							
SLM+ 40	32	1.01	46	29	85	23	7.9	2.8	4.2	1	4	104	5.7
M LT SP 32	32	1.00	44	28	86	22	7.0	3.1	4.6	1	4	102	6.5 1/
SLM LT SP 42	31	0.99	46	27	79	22	8.0	3.4	4.5	1	4	102	6.7 1/
LAMESA		TAMCOT SP-21				80 PERCENT							
M 31	32	1.03	42	32	89	23	6.8	1.8	3.4	0	3	107	5.4
M 31	32	0.99	44	32	84	23	8.4	1.4	2.3	0	4	106	4.9
M 31	32	1.03	44	32	81	23	7.3	1.6	2.8	0	4	106	5.1 1/
LEVELLAND		GSA 71				80 PERCENT							
SLM LT SP 42	32	1.01	45	28	78	23	7.7	2.6	4.6	1	4	102	6.2
SLM LT SP 42	32	0.99	44	28	84	24	7.8	2.4	3.8	1	5	102	5.9
SLM LT SP 42	31	1.01	45	29	81	23	8.3	3.1	4.4	2	5	102	6.3 1/

1/ Cotton stuck to processing rolls.

Table 5a.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1979.

State, Production Area Chronological sampling and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color - 22s gray yarn			Color-22s blchd.yarn			Color - 22s dyed yarn		
Grade	Staple	8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex		Reflctance	Yellowness	Composite	Reflctance	Yellowness	Composite	Reflctance	Blueness	Composite
Name Code	32d in.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	R_d	+b	Index	R_d	+b	Index	R_d	-b	Index
SOUTH WEST																			
CENTRAL TEXAS																			
TEMPLE			LANKART 57					95 PERCENT											
SLM LT SP 42	33	306	98	7.6	6.9	120	110	6	36	47	68.4	11.6	95	83.6	3.4	100	26.2	25.2	102
SLM LT SP 42	33	306	102	7.9	7.1	120	110	0	26	52	67.7	11.7	94	83.5	3.6	99	27.2	24.0	96
SLM LT SP 42	33	296	98	7.2	7.9	130	110	14	50	53	68.3	11.6	95	84.0	3.6	100	25.9	24.8	101
NORTHWEST TEXAS																			
BULA			TAMCOT SP-21					85 PERCENT											
SLM 41	32	326	104	9.9	7.3	120	110	14	46	52	69.1	12.3	99	83.6	3.8	99	26.3	24.1	98
SLM LT SP 42	30	293	96	8.0	6.9	110	110	10	40	41	67.0	12.4	95	83.3	4.3	96	26.6	23.6	95
SLM LT SP 42	32	313	101	8.3	7.4	110	110	4	48	49	68.0	12.2	96	82.7	4.4	94	26.7	23.0	93
CROWELL			LANKART 57					90 PERCENT											
SLM LT SP 42	33	324	105	9.1	7.7	120	110	14	36	52	67.0	12.1	94	82.9	4.0	96	25.1	24.5	102
SLM LT SP 42	32	295	96	7.3	6.8	120	130	30	58	42	67.0	11.7	92	82.4	4.2	94	27.2	23.5	94
SLM LT SP 42	33	308	99	7.5	6.8	120	110	10	24	48	67.9	12.1	96	81.3	4.5	90	27.6	22.9	90
HALE CENTER			GSA 71					90 PERCENT											
SLM LT SP 42	32	328	102	9.4	7.2	110	110	8	34	51	64.3	12.6	89	82.5	4.7	93	26.4	23.3	94
SLM LT SP 42	30	315	101	8.8	8.2	120	110	4	38	46	63.3	13.2	88	81.8	4.7	91	26.9	23.0	92
SLM LT SP 42	31	310	102	8.2	7.5	110	100	18	58	52	64.5	12.5	89	83.3	4.9	94	28.0	22.4	88
HEDLEY			LANKART LX571					80 PERCENT											
SLM+ 40	32	316	105	7.9	7.6	120	120	14	50	56	68.8	12.2	98	83.1	3.6	98	26.0	23.9	98
M LT SP 32	32	310	103	8.2	7.6	120	90	12	42	52	69.0	12.0	97	85.8	3.5	105	26.8	23.6	95
SLM LT SP 42	31	318	102	8.0	7.0	110	110	12	46	49	68.6	12.1	97	82.9	3.8	97	27.3	23.4	93
LAMESA			TAMCOT SP-21					80 PERCENT											
M 31	32	319	107	8.5	7.5	110	110	2	24	54	72.5	11.5	102	84.8	3.7	102	25.2	24.8	103
M 31	32	302	115	7.5	6.3	130	120	2	20	52	71.3	11.6	100	82.3	3.3	98	25.3	24.2	100
M 31	32	310	103	8.3	6.9	120	110	10	42	51	71.3	11.7	101	84.0	3.4	101	26.1	24.1	98
LEVELLAND			GSA 71					80 PERCENT											
SLM LT SP 42	32	337	108	9.5	8.3	120	110	20	36	54	68.8	12.4	98	84.6	4.1	100	26.8	23.1	93
SLM LT SP 42	32	309	100	7.8	7.3	130	120	10	38	50	66.8	12.6	95	85.1	3.6	103	26.8	23.7	95
SLM LT SP 42	31	312	102	8.1	7.1	110	110	18	50	48	68.6	12.5	98	83.2	3.9	97	27.7	22.4	88

Table 5.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1979

State, Production Area, Chronological sampling and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH WEST														
NORTHWEST TEXAS														
LORENZO			PAYMASTER 785				100 PERCENT							
SLM	41	29	0.92	44	28	83	22	8.0	3.3	4.7	1	4	102	6.9
SLM LT SP	42	29	0.94	45	28	81	21	7.5	3.0	4.2	2	5	101	8.3 1/
SLM LT SP	42	29	0.93	45	29	84	21	7.3	2.9	4.8	2	4	99	7.9 1/
MULESHOE			PAYMASTER 792				75 PERCENT							
SLM	41	32	1.00	45	31	86	23	8.0	2.3	3.6	1	4	102	6.4
SLM LT SP	42	31	0.97	44	28	79	22	7.7	2.8	4.0	1	4	101	7.7 1/
M LT SP	32	31	0.99	44	29	81	22	7.3	1.5	2.8	2	5	101	5.7 1/
OLTON			GSA 71				70 PERCENT							
M LT SP	32	31	0.96	44	26	81	22	8.3	1.5	3.4	2	6	100	6.5
M LT SP	32	30	0.97	44	27	80	21	7.3	1.7	5.1	2	5	99	5.9 1/
SLM LT SP	42	31	0.96	45	27	81	22	7.0	1.9	4.6	2	5	100	6.5 1/
PADUCAH			LANKART 611				75 PERCENT							
M LT SP	32	31	1.01	44	29	85	21	8.4	2.4	3.8	1	5	103	5.7
M LT SP	32	31	1.01	44	30	83	21	7.8	1.5	2.1	1	4	105	5.3 1/
M LT SP	32	32	1.02	45	31	78	22	8.8	1.8	2.7	1	4	103	13.4
SNYDER			TAMCOT SP-21				75 PERCENT							
M	31	32	0.95	44	36	87	22	6.9	2.5	3.8	0	4	106	5.2
SLM	41	32	1.04	45	33	87	22	7.1	2.5	3.7	1	4	103	5.4
SLM LT SP	42	32	1.04	44	30	84	23	7.4	3.1	3.9	2	4	100	6.0 1/
SNYDER			WESTERN SP 44				80 PERCENT							
SLM	41	33	1.00	45	35	91	24	6.7	2.4	3.2	1	4	104	5.2
M LT SP	32	31	0.96	45	30	94	22	6.8	1.3	2.6	0	4	105	5.6 1/
M LT SP	32	32	1.01	46	31	86	23	7.5	1.6	2.5	1	4	104	5.3 1/
STAMFORD			LANKART 611				95 PERCENT							
M	31	31	0.95	43	42	82	22	8.5	1.5	2.2	1	4	104	5.0
M	31	31	0.95	44	41	82	20	8.2	1.0	1.7	1	4	103	5.2
M	31	30	0.95	45	40	82	22	8.6	1.2	2.2	1	4	102	5.1

1/ Cotton stuck to processing rolls.

Table 5a.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1979.

State, Production Area Chronological sampling and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color - 22s gray yarn			Color-22s blchd.yarn			Color - 22s dyed yarn		
Grade	Staple	8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex		Reflctance	Yellowness	Composite	Reflctance	Yellowness	Composite	Reflctance	Blueness	Composite
Name Code	32d in.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	R_d	+b	Index	R_d	+b	Index	R_d	-b	Index
SOUTH WEST																			
NORTHWEST TEXAS																			
LORENZO			PAYMASTER 785					100 PERCENT											
SLM	41 29	293	94	8.7	7.5	110	120	4	26	42	68.0	12.5	97	83.6	3.6	100	26.3	24.1	98
SLM LT SP	42 29	287	90	8.3	6.5	110	110	24	70	39	65.6	12.6	92	83.4	4.0	97	26.8	23.8	96
SLM LT SP	42 29	279	90	7.7	7.0	110	90	34	62	30	65.9	12.5	93	84.3	3.8	100	26.6	23.4	94
MULESHOE			PAYMASTER 792					75 PERCENT											
SLM	41 32	325	108	8.6	7.0	120	120	6	30	54	67.1	12.5	96	81.9	4.1	94	25.3	24.2	100
SLM LT SP	42 31	311	103	8.3	7.2	110	100	2	46	43	66.3	12.4	93	85.3	3.9	102	27.1	23.5	94
M LT SP	32 31	321	109	8.4	7.7	120	110	26	44	52	67.3	12.5	96	83.5	3.9	98	27.4	23.3	92
OLTON			GSA 71					70 PERCENT											
M LT SP	32 31	295	93	8.8	7.0	120	110	2	24	46	64.9	13.2	93	85.2	3.9	102	27.0	23.1	92
M LT SP	32 30	286	92	7.8	6.8	110	70	14	58	38	63.7	12.9	88	83.8	4.0	98	27.0	23.4	94
SLM LT SP	42 31	301	99	7.9	7.5	100	90	8	64	46	64.1	13.3	91	83.8	4.3	97	26.6	23.5	95
PADUCAH			LANKART 611					75 PERCENT											
M LT SP	32 31	295	96	7.9	7.3	110	120	12	68	50	68.3	12.1	97	83.8	3.7	100	25.4	24.5	101
M LT SP	32 31	305	95	8.3	7.3	120	110	10	36	51	69.7	11.8	98	85.4	3.7	103	27.1	23.5	94
M LT SP	32 32	309	100	8.5	7.7	120	110	8	40	49	70.5	11.7	99	83.1	4.3	96	26.7	23.2	93
SNYDER			TAMCOT SP-21					75 PERCENT											
M	31 32	313	106	8.6	7.0	120	110	1	32	53	71.4	12.0	102	83.9	3.9	99	25.2	24.9	103
SLM	41 32	325	107	9.0	7.6	120	110	2	18	53	70.2	11.8	99	83.6	3.5	100	26.3	24.2	98
SLM LT SP	42 32	333	113	8.7	7.6	120	110	0	24	60	69.6	12.4	100	82.7	4.4	94	26.9	22.6	91
SNYDER			WESTERN SP 44					80 PERCENT											
SLM	41 33	339	113	8.7	7.5	110	110	14	30	52	69.0	12.2	98	83.8	3.6	100	26.4	23.2	94
M LT SP	32 31	312	103	7.2	6.7	110	100	12	58	46	68.2	12.4	97	84.3	3.7	101	26.4	23.5	95
M LT SP	32 32	323	104	8.0	7.3	130	110	22	26	42	69.8	12.3	100	82.4	3.9	95	26.7	23.1	93
STAMFORD			LANKART 611					95 PERCENT											
M	31 31	296	94	8.5	6.9	120	120	12	52	37	70.1	11.4	98	84.1	3.5	101	25.1	25.8	107
M	31 31	301	97	8.8	7.7	120	110	12	38	41	69.5	11.9	98	84.5	3.8	101	25.7	24.2	99
M	31 30	278	86	7.4	6.4	130	120	6	32	43	68.9	11.6	96	83.8	3.2	102	26.6	23.9	96

Table 5.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1979

State, Production Area, Chronological sampling and Classification		Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste	
Grade	Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color		
Name Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.	
SOUTH WEST														
NORTHWEST TEXAS														
TULIA		STRIPPER 31				90 PERCENT								
LM LT SP 52	31	0.94	45	33	90	21	7.1	4.5	6.1	2	4	98	8.0	
SLM SP 43	29	0.95	47	30	85	21	6.6	3.2	4.8	3	6	94	8.6	1/
SLM LT SP 42	29	0.89	47	33	85	22	7.6	3.0	5.1	2	4	99	7.2	1/
TULIA		STRIPPER 31				80 PERCENT								
SLM LT SP 42	29	0.91	46	33	82	21	7.3	5.3	6.5	2	4	100	8.2	
SLM LT SP 42	30	0.98	44	30	82	22	7.8	3.4	4.7	2	5	99	7.4	
SLM LT SP 42	30	0.98	45	31	81	21	8.4	2.7	3.9	2	5	99	6.3	1/
WEINERT		LANKART LX571				80 PERCENT								
M 31	32	1.00	47	46	83	22	7.0	1.3	2.1	1	4	102	5.0	
M 31	31	0.94	47	44	82	21	7.9	1.0	2.1	1	5	102	4.9	
M LT SP 32	32	1.01	45	36	82	21	7.3	2.5	3.6	1	4	102	6.5	1/
WOODSON		LANKART 57				99 PERCENT								
2/ SLM 41	32	0.99	45	38	86	22	7.4	2.2	3.2	2	4	102	6.2	
M LT SP 32	32	1.03	44	35	83	22	7.1	1.7	3.0	1	5	101	5.1	1/
M LT SP 32	32	1.03	43	35	87	22	7.6	1.8	3.1	1	4	102	5.7	
OKLAHOMA														
MOUNTAIN VIEW		LANKART 57				80 PERCENT								
M LT SP 32	32	1.01	45	34	84	23	8.2	2.3	3.5	1	4	103	5.6	
M LT SP 32	32	0.97	45	35	83	23	8.4	2.1	2.7	1	4	102	5.2	
SLM LT SP 42	33	1.03	44	34	79	22	8.0	2.1	3.1	2	5	98	6.1	
WEST TEXAS														
FABENS		TAMCOT SP-21				81 PERCENT								
SM 21	34	1.05	42	44	82	22	7.8	1.0	2.0	0	3	106	4.9	
M 31	34	1.04	44	34	84	23	7.4	1.3	2.0	0	3	106	5.0	1/
SLM 41	34	1.04	43	31	85	22	7.0	1.5	2.4	0	4	106	5.3	

1/ Cotton stuck to processing rolls.
2/ Reduced from 31 because of grass.

Table 5a.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1979.

State, Production Area Chronological sampling and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color - 22s gray yarn			Color-22s blchd.yarn			Color - 22s dyed yarn		
		8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex		Reflectance	Yellowness	Composite	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
Name	Code	32d in.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	R_d	+b	Index	R_d	+b	Index	R_d	-b	Index
SOUTH WEST																				
NORTHWEST TEXAS																				
TULIA				STRIPPER 31					90 PERCENT											
LM LT SP	52	31	311	108	8.2	7.9	120	110	4	24	38	66.2	12.3	93	80.3	4.7	87	26.6	23.6	95
SLM SP	43	29	282	93	7.4	6.9	110	100	4	40	36	63.2	13.0	87	83.9	4.2	98	26.4	23.6	96
SLM LT SP	42	29	275	87	7.2	6.4	100	110	8	46	35	65.9	12.5	93	82.1	4.2	94	27.9	22.9	90
TULIA				STRIPPER 31					80 PERCENT											
SLM LT SP	42	29	291	95	7.8	7.1	110	120	6	32	40	67.0	12.1	94	83.9	4.0	99	26.4	23.6	96
SLM LT SP	42	30	296	99	8.0	7.3	120	110	18	52	45	65.5	12.3	91	82.6	4.5	94	27.1	23.1	92
SLM LT SP	42	30	304	100	8.3	7.2	120	110	16	30	45	68.1	12.0	96	83.1	4.2	96	27.2	23.1	92
WEINERT				LANKART LX571					80 PERCENT											
M		31	32	291	98	8.0	6.9	120	110	8	18	46	68.9	12.1	98	83.2	3.7	98	26.3	24.7	100
M		31	31	306	99	8.6	7.7	110	120	4	52	41	68.2	12.3	97	83.8	3.1	102	24.7	25.5	107
M LT SP		32	32	285	92	7.5	6.4	110	110	22	82	43	68.4	12.0	96	82.8	3.9	96	26.4	24.1	98
WOODSON				LANKART 57					99 PERCENT											
1/ SLM		41	32	305	105	8.4	7.5	120	120	1	24	50	68.5	12.1	97	82.6	3.6	97	26.8	24.4	98
M LT SP		32	32	299	100	7.4	7.0	120	110	22	42	48	69.1	11.8	97	82.7	3.9	96	27.3	23.5	93
M LT SP		32	32	315	103	7.7	6.6	120	110	4	42	49	69.1	11.8	97	83.5	3.6	99	27.6	23.2	92
OKLAHOMA																				
MOUNTAIN VIEW				LANKART 57					80 PERCENT											
M LT SP		32	32	316	104	9.2	7.9	120	120	10	36	51	67.4	12.6	97	83.4	3.6	99	25.0	24.9	104
M LT SP		32	32	299	98	7.8	7.3	130	120	6	22	50	68.0	12.3	97	84.5	3.5	102	26.4	24.4	99
SLM LT SP		42	33	308	101	7.9	7.0	130	120	4	20	51	66.9	12.3	94	81.3	4.4	91	27.1	23.1	92
WEST TEXAS																				
FABENS				TAMCOT SP-21					81 PERCENT											
SM		21	34	320	102	9.7	7.3	120	120	8	32	52	71.6	11.2	99	84.0	3.1	102	24.8	25.0	104
M		31	34	322	109	8.1	7.2	120	120	10	42	57	71.9	11.1	100	84.8	2.8	106	26.6	24.5	99
SLM		41	34	322	106	8.1	7.0	120	100	10	26	57	70.9	11.3	99	85.3	2.9	106	26.9	24.0	96

1/ Reduced from 31 because of grass.

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
			2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Grade		Staple												
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH EAST														
ALABAMA														
FYFFE			DIXIE KING III				100 PERCENT							
SLM	41	36	1.09	47	42	87	23	7.3	2.2	2.9	1	3	102	5.4
LM	51	36	1.10	47	39	78	23	7.6	3.6	4.6	2	3	97	7.4
LM	51	36	1.11	47	38	79	24	8.1	6.2	7.3	3	3	95	9.3
HACKLEBURG			DELTAPINE 55				100 PERCENT							
SLM	41	36	1.10	45	41	88	24	7.4	1.8	3.0	2	3	101	6.4
SLM	41	35	1.11	45	38	83	25	7.4	1.6	2.7	2	4	98	6.9
SLM	41	36	1.10	45	39	81	23	7.8	1.6	2.7	2	4	101	6.1
HAZEL GREEN			STONEVILLE 603				75 PERCENT							
SLM LT SP	42	34	1.08	46	44	81	21	6.6	2.8	3.3	2	4	97	6.4
SLM	41	34	1.06	45	42	79	22	7.6	2.0	3.0	2	3	99	6.3
SLM	41	34	1.08	45	41	80	20	7.4	1.6	2.7	2	3	99	6.1
HUNTSVILLE			STONEVILLE 213				100 PERCENT							
SLM	41	35	1.06	46	47	84	22	7.1	1.9	2.1	2	3	97	6.2
LM	51	35	1.06	44	40	83	22	7.2	3.3	4.4	2	3	97	7.6
LM	51	34	1.05	44	42	83	23	7.8	1.5	2.3	2	3	99	7.6
PRATTVILLE			COKER 420				100 PERCENT							
SLM	41	35	1.13	47	45	87	24	6.9	3.0	3.9	2	4	98	7.0
LM	51	35	1.11	45	44	83	24	6.9	4.5	5.4	3	3	95	8.2
SLM LT SP	42	35	1.12	46	44	90	26	7.4	5.5	6.4	2	4	97	6.7
SOCIETY HILL			DELTAPINE 61				90 PERCENT							
SLM	41	34	1.07	47	50	83	23	7.9	1.2	2.2	2	3	100	6.7
SLM	41	34	1.07	45	44	84	23	8.5	1.2	2.1	2	3	100	5.2
SLM	41	34	1.11	46	41	80	24	8.8	1.1	2.1	1	3	102	6.3
SULLIGENT			DELTAPINE 61				80 PERCENT							
SLM	41	35	1.10	47	51	80	23	7.9	2.0	2.6	3	4	96	5.6
SLM	41	35	1.09	47	51	80	23	8.0	1.8	2.4	2	3	98	5.4
SLM	41	35	1.11	47	50	79	23	8.2	2.0	2.9	2	3	97	5.8
LM	51	36	1.11	47	48	77	22	7.9	2.8	3.9	2	3	97	6.7

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979.

State, Production Area, Chronological sampling, and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Blue-ness	Com-posite
Grade	Staple																		
Name Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH EAST																			
ALABAMA																			
FYFFE			DIXIE KING III					100 PERCENT											
SLM	41	36	113	40	7.3	5.6	110	70	118	274	62	67.4	11.0	90	83.7	3.4	101	26.4	24.0	97
LM	51	36	121	42	8.0	6.5	100	70	140	386	66	66.3	10.8	88	82.7	3.5	98	25.4	24.7	102
LM	51	36	114	42	7.4	6.1	80	70	146	392	60	64.5	11.5	86	82.2	3.4	97	26.1	23.9	97
HACKLEBURG			DELTAPINE 55					100 PERCENT											
SLM	41	36	124	44	7.3	5.7	110	80	66	190	63	68.1	11.2	93	83.1	4.0	97	24.9	24.6	103
SLM	41	35	119	42	6.7	5.9	90	60	108	424	65	68.0	11.3	93	83.9	3.8	99	26.2	23.7	96
SLM	41	36	113	39	6.9	6.0	100	60	102	422	59	68.0	11.2	93	82.6	3.6	97	25.9	24.2	99
HAZEL GREEN			STONEVILLE 603					75 PERCENT											
SLM LT SP	42	34	98	32	7.2	5.3	120	70	68	182	57	66.5	11.3	89	84.0	4.2	98	26.0	24.6	100
SLM	41	34	102	33	7.3	5.4	110	60	68	306	57	67.8	11.0	91	83.6	4.3	97	25.4	25.0	103
SLM	41	34	94	32	7.0	5.2	100	70	60	270	55	68.0	10.8	91	84.9	3.7	102	27.5	23.9	95
HUNTSVILLE			STONEVILLE 213					100 PERCENT											
SLM	41	35	103	34	7.0	5.7	110	70	30	236	48	68.0	10.8	91	84.0	3.6	100	26.1	24.5	100
LM	51	35	107	34	6.7	5.0	90	60	110	424	52	68.8	10.9	93	83.7	3.6	100	26.9	23.7	95
LM	51	34	99	36	6.8	5.9	100	60	46	340	51	68.4	11.2	93	83.5	3.5	100	25.9	24.7	101
PRATTVILLE			COKER 420					100 PERCENT											
SLM	41	35	123	44	6.9	5.2	70	60	286	632	69	66.9	11.0	89	83.8	3.6	100	27.1	24.0	96
LM	51	35	106	38	6.5	5.2	70	60	268	512	57	66.8	10.4	87	82.1	3.2	98	28.0	23.3	91
SLM LT SP	42	35	118	42	6.1	5.2	70	60	326	716	63	65.4	10.7	86	82.0	3.4	97	26.7	23.8	96
SOCIETY HILL			DELTAPINE 61					90 PERCENT											
SLM	41	34	99	34	6.3	5.7	110	70	50	272	51	67.9	10.4	89	83.3	3.6	99	27.0	23.9	96
SLM	41	34	104	36	7.4	6.0	110	80	56	206	58	69.0	10.3	92	83.1	3.0	101	27.6	24.1	95
SLM	41	34	106	36	7.4	5.4	110	70	40	288	63	71.0	10.7	97	85.3	2.7	107	27.4	24.2	96
SULLIGENT			DELTAPINE 61					80 PERCENT											
SLM	41	35	99	33	6.2	4.8	110	60	118	364	53	66.8	10.9	89	84.5	3.1	104	27.3	24.0	95
SLM	41	35	107	37	6.8	5.8	110	90	60	246	61	67.2	10.7	89	83.6	3.4	100	25.4	25.2	104
SLM	41	35	107	36	7.3	5.7	110	70	76	202	59	67.4	10.4	89	82.8	4.1	96	26.3	24.5	99
LM	51	36	109	38	7.4	5.7	120	80	78	276	60	66.5	10.8	88	84.6	3.4	103	26.2	24.8	101

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979

State, Production Area, Chronological sampling, and Classification		Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH EAST													
GEORGIA													
BOSTWICK		DIXIE KING III				100 PERCENT							
SLM LT SP 42	34	1.04	46	49	84	21	6.9	1.9	3.1	3	4	93	7.3
SLM LT SP 42	34	1.05	46	47	81	23	7.2	2.6	3.4	3	4	93	7.6
LM LT SP 52	34	1.03	45	46	76	21	6.8	2.7	4.0	5	4	84	9.8
JEFFERSONVILLE		COKER 201				70 PERCENT							
SLM LT SP 42	34	1.05	43	43	82	20	6.6	2.5	3.5	4	4	88	7.4
LM LT SP 52	35	1.07	44	44	80	20	6.4	3.3	4.7	5	3	83	8.6
LM SP 53	34	1.11	42	44	82	22	6.3	3.4	4.7	6	5	79	9.7
VIENNA		COKER 304				80 PERCENT							
LM 51	34	1.05	44	49	88	22	5.4	2.4	3.5	4	3	86	8.1
LM LT SP 52	35	1.10	43	42	81	22	6.3	3.4	5.2	4	4	87	9.6
SLM LT SP 42	34	1.10	42	44	82	22	6.1	3.1	4.8	5	4	82	8.7
NORTH CAROLINA													
LAURINBURG		MCNAIR 220				100 PERCENT							
LM 51	35	1.09	44	42	86	23	6.0	3.5	4.3	4	3	89	7.7
LM 51	35	1.10	46	46	84	22	6.1	4.1	5.3	3	3	91	8.7
LM+ 50	35	1.09	46	44	85	23	6.4	2.6	4.0	3	3	94	6.9
SHELBY		COKER 304				100 PERCENT							
SLM LT SP 42	35	1.12	45	45	84	24	7.2	2.6	3.6	3	4	96	7.0
SOUTH CAROLINA													
FLORENCE		COKER 201				73 PERCENT							
SLM LT SP 42	35	1.11	43	45	84	22	7.0	3.0	4.3	4	4	87	7.3
MAYESVILLE		COKER 304				100 PERCENT							
SLM LT SP 42	35	1.09	42	45	87	22	5.4	1.9	3.0	4	4	85	7.0
SLM 41	36	1.11	43	44	88	22	6.1	1.5	2.3	3	3	94	6.3
SLM 41	37	1.14	46	46	85	24	6.8	1.6	2.1	3	3	95	6.3

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979.

State, Production Area, Chronological sampling, and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Blue-ness	Com-posite
Grade	Staple																		
Name Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH EAST																			
GEORGIA																			
BOSTWICK			DIXIE KING III					100 PERCENT											
SLM LT SP 42	34	96	30	6.1	4.5	80	70	74	244	48	64.6	11.6	86	82.1	5.0	90	26.9	24.0	96
SLM LT SP 42	34	96	35	6.3	5.5	110	70	102	228	53	65.1	11.5	87	83.8	4.1	98	27.0	23.1	92
LM LT SP 52	34	82	27	5.6	4.6	90	60	98	342	38	62.9	11.1	82	82.8	3.7	97	27.7	23.4	92
JEFFERSONVILLE			COKER 201					70 PERCENT											
SLM LT SP 42	34	96	32	5.7	4.3	120	60	66	358	54	61.6	11.1	80	82.9	4.2	95	27.0	24.0	96
LM LT SP 52	35	91	29	6.0	4.3	80	60	116	430	47	61.4	10.6	79	83.4	3.7	99	27.7	23.5	93
LM SP 53	34	84	31	5.4	5.3	90	60	100	508	48	58.4	11.5	76	83.2	3.4	99	27.8	23.8	94
VIENNA			COKER 304					80 PERCENT											
LM 51	34	85	28	5.0	4.3	90	60	68	168	43	64.2	10.1	82	83.3	3.2	100	28.3	23.5	91
LM LT SP 52	35	82	28	5.3	4.4	60	60	238	896	40	62.9	10.8	82	84.0	3.9	99	27.7	23.4	92
SLM LT SP 42	34	74	22	5.2	3.9	80	60	140	454	41	61.3	10.8	79	84.2	3.2	103	28.3	23.4	91
NORTH CAROLINA																			
LAURINBURG			MCNAIR 220					100 PERCENT											
LM 51	35	107	36	6.0	4.7	110	70	76	272	60	62.5	10.8	81	82.9	3.5	98	26.9	24.0	96
LM 51	35	106	34	6.5	4.7	100	60	102	288	58	64.3	10.4	83	83.1	3.5	99	25.8	24.6	101
LM+ 50	35	106	33	6.4	4.5	110	70	70	274	60	66.3	10.3	86	82.8	3.3	99	27.3	23.5	93
SHELBY			COKER 304					100 PERCENT											
SLM LT SP 42	35	114	40	6.7	5.4	100	60	110	310	77	65.9	11.5	89	83.9	3.8	99	26.3	24.3	99
SOUTH CAROLINA																			
FLORENCE			COKER 201					73 PERCENT											
SLM LT SP 42	35	78	27	5.3	4.0	80	60	198	616	41	61.4	11.0	79	84.0	2.8	104	27.6	23.7	94
MAYESVILLE			COKER 304					100 PERCENT											
SLM LT SP 42	35	92	27	5.3	3.6	80	60	142	502	47	62.9	10.8	82	83.8	3.3	101	27.9	23.6	93
SLM 41	36	100	32	5.9	4.3	110	60	80	372	53	65.7	11.0	87	84.0	3.2	102	26.5	24.7	100
SLM 41	37	101	38	5.5	4.6	100	70	118	426	39	66.9	10.4	88	84.3	2.8	104	28.0	23.8	93

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH CENTRAL														
ARKANSAS														
ALTHEIMER			DELTAPINE 61				100 PERCENT							
SLM	41	36	1.19	46	47	80	24	8.4	3.4	3.9	1	3	101	6.9
SLM	41	36	1.15	44	43	80	23	8.3	2.2	3.3	1	3	101	6.1
SLM	41	36	1.13	43	33	80	23	8.2	2.1	3.4	1	3	101	6.7
BAY			STONEVILLE 213				100 PERCENT							
LM+	50	35	1.06	45	48	85	23	6.4	2.8	3.2	2	3	97	7.0
SLM	41	35	1.08	45	46	88	22	7.2	1.9	2.9	1	3	100	6.9
SLM	41	35	1.14	47	48	83	23	7.0	2.8	3.7	1	3	101	7.1
COTTON PLANT			DELTAPINE 55				95 PERCENT							
SLM	41	36	1.12	45	45	85	23	6.7	1.9	2.5	1	3	102	6.0
SLM	41	35	1.14	44	42	84	23	7.2	1.7	2.6	1	2	102	6.3
SLM LT SP	42	35	1.08	43	31	82	24	7.0	2.5	4.6	1	4	102	7.8
DUMAS			STONEVILLE 213				100 PERCENT							
M	31	36	1.12	46	50	85	23	6.3	0.9	1.6	1	3	101	5.2
SLM	41	37	1.12	46	47	89	23	6.9	1.8	2.8	1	3	101	4.8
SLM	41	36	1.11	45	43	87	23	7.1	1.9	2.7	2	3	99	6.2
KEISER			REX 713				100 PERCENT							
SLM	41	35	1.10	42	41	83	21	6.3	1.4	1.6	1	3	103	5.0
M	31	35	1.12	43	38	81	21	7.3	1.4	1.9	1	3	103	5.6
SLM	41	36	1.12	44	35	79	21	7.4	1.7	2.8	1	3	102	6.8
LEACHVILLE			VAIL 7				100 PERCENT							
M	31	35	1.09	45	50	89	21	5.5	1.3	1.4	1	3	102	5.6
M	31	35	1.10	45	47	89	22	6.3	1.2	1.9	1	3	103	6.5
M	31	35	1.10	44	45	91	21	6.4	1.2	2.1	1	3	102	6.0
PINE BLUFF			DELTAPINE 16				100 PERCENT							
SLM	41	36	1.17	46	47	82	24	8.3	2.4	3.0	1	3	101	5.9
SLM	41	36	1.14	45	40	76	24	8.6	1.0	2.2	2	3	98	6.0

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979.

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
	Grade	Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Blue-ness	Com-posite
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH CENTRAL																				
ARKANSAS																				
ALTHEIMER				DELTAPINE 61						100 PERCENT										
	SLM	41	36	118	40	7.4	5.8	90	70	178	392	67	68.4	10.7	92	84.6	3.0	104	25.0	25.5	106
	SLM	41	36	116	40	7.6	6.4	90	60	146	478	69	69.2	10.6	93	84.2	3.1	103	25.6	24.6	101
	SLM	41	36	118	40	7.9	6.2	80	60	90	602	67	69.0	10.1	91	83.5	3.0	102	26.9	23.7	95
BAY				STONEVILLE 213						100 PERCENT										
	LM+	50	35	103	31	6.4	4.7	80	60	166	548	49	69.8	10.5	94	83.1	3.4	99	28.5	27.8	108
	SLM	41	35	100	33	6.5	5.3	110	60	66	310	47	69.4	11.0	95	83.4	3.3	100	26.3	24.5	99
	SLM	41	35	109	37	7.0	5.6	110	70	126	336	56	68.9	10.9	93	83.4	3.4	100	25.6	25.2	104
COTTON PLANT				DELTAPINE 55						95 PERCENT										
	SLM	41	36	112	38	7.0	5.4	90	70	84	306	65	69.4	10.4	93	83.1	3.0	101	26.5	24.2	98
	SLM	41	35	112	39	7.1	5.7	110	70	96	374	62	67.5	10.5	89	83.4	3.2	101	26.0	24.6	100
	SLM LT SP	42	35	108	37	7.1	5.6	80	60	98	270	60	67.3	11.6	93	83.1	3.7	98	26.0	24.1	98
DUMAS				STONEVILLE 213						100 PERCENT										
	M	31	36	114	37	6.4	5.1	120	90	50	144	60	69.2	10.4	92	83.4	3.1	101	26.6	24.6	99
	SLM	41	37	115	39	6.9	5.4	120	80	44	284	65	67.7	11.0	91	84.5	3.1	104	26.2	24.5	100
	SLM	41	36	115	40	7.2	5.6	120	70	102	148	62	66.9	10.6	88	82.8	3.2	99	26.4	24.3	98
KEISER				REX 713						100 PERCENT										
	SLM	41	35	106	35	6.5	5.3	120	70	56	280	62	70.5	10.4	95	84.0	3.2	102	26.6	24.4	98
	M	31	35	110	37	6.9	5.5	90	60	54	286	64	70.0	10.7	95	84.4	3.2	103	25.6	24.8	102
	SLM	41	36	109	36	7.4	5.3	110	70	50	250	63	70.2	10.6	95	84.5	3.3	103	26.7	23.7	95
LEACHVILLE				VAIL 7						100 PERCENT										
	M	31	35	107	33	6.1	4.6	100	60	88	268	49	69.6	10.7	94	82.7	3.2	99	29.1	27.8	107
	M	31	35	105	32	6.2	4.5	110	90	38	232	49	70.5	10.1	94	82.9	3.8	97	26.5	24.3	98
	M	31	35	106	35	6.2	4.7	110	70	46	212	51	70.8	10.4	96	82.9	4.0	96	25.3	25.3	105
PINE BLUFF				DELTAPINE 16						100 PERCENT										
	SLM	41	36	117	42	7.4	6.0	100	70	106	286	73	69.6	10.5	94	83.1	3.5	99	24.8	25.5	106
	SLM	41	36	112	39	7.7	6.0	90	70	98	408	66	68.5	10.8	92	85.0	3.0	105	26.5	24.3	98

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH CENTRAL														
LOUISIANA														
LAKE PROVIDENCE			DELTAPINE 61				98 PERCENT							
SLM	41	35	1.12	46	47	82	23	7.7	1.8	2.8	1	3	101	6.1
SLM	41	35	1.13	46	45	77	24	8.6	2.3	3.1	1	2	102	6.7
SLM	41	35	1.13	46	37	82	23	9.3	2.5	3.9	1	3	103	7.2
SLM LT SP	42	35	1.08	42	29	79	22	8.9	2.9	4.4	2	4	101	8.6
LAKE PROVIDENCE			STONEVILLE 825				100 PERCENT							
SLM	41	35	1.08	44	46	89	22	5.4	1.8	2.7	2	3	98	6.6
LM+	50	36	1.12	44	45	84	23	5.9	2.2	2.9	1	3	102	7.1
LM	51	35	1.08	43	32	82	23	6.9	3.2	4.6	1	2	100	8.1
SLM	41	35	1.10	44	45	83	23	6.8	2.1	2.9	1	3	102	6.0
MISSISSIPPI														
NATCHEZ			STONEVILLE 256				100 PERCENT							
SLM	41	36	1.15	46	45	86	22	5.8	2.9	3.6	1	2	101	6.8
LM+	50	36	1.11	45	42	87	23	6.2	2.5	3.6	2	3	100	7.7
SLM	41	35	1.09	44	38	86	23	7.1	2.5	3.7	1	3	101	7.6
LOUISIANA														
OAK RIDGE			DELTAPINE 55				100 PERCENT							
SLM	41	36	1.14	45	46	85	22	5.8	2.4	2.5	2	3	98	5.2
SLM	41	36	1.14	46	45	88	23	7.0	1.7	2.8	1	3	102	5.3
LM	51	36	1.12	43	38	83	23	7.4	3.0	4.0	1	3	100	7.3
SLM	41	35	1.10	44	33	79	23	6.8	2.3	3.1	1	2	100	6.1
SICILY ISLAND			STONEVILLE 213				100 PERCENT							
SLM	41	35	1.10	47	52	86	22	5.7	2.4	2.7	2	4	99	6.5
SLM	41	35	1.08	48	48	89	23	6.8	2.4	3.6	2	3	97	6.6
LM	51	35	1.07	46	40	81	23	7.6	2.9	4.3	2	2	96	7.5
LM	51	35	1.07	44	32	78	23	7.5	3.8	5.1	3	3	94	8.3
MISSISSIPPI														
CLARKSDALE			STONEVILLE 213				100 PERCENT							
SLM+	40	35	1.11	44	45	82	22	7.3	1.4	2.5	1	3	102	6.0
SLM	41	35	1.07	43	43	82	22	7.3	1.7	2.5	2	3	100	6.5
SLM	41	35	1.12	45	42	80	22	7.6	1.9	3.0	1	3	101	6.9

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979.

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
	Grade	Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflectance	Yellowness	Composite	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH CENTRAL																				
LOUISIANA																				
LAKE PROVIDENCE			DELTAPINE 61						98 PERCENT											
SLM		41 35	112	39	7.0	5.8	110	70	90	352	64	70.2	10.0	93	83.9	3.0	103	25.9	24.9	102
SLM		41 35	113	38	7.7	5.8	90	70	84	348	65	70.4	10.2	94	84.4	2.9	104	26.5	24.5	99
SLM		41 35	113	42	7.7	6.0	110	60	88	348	69	70.1	10.6	95	84.9	2.6	107	26.6	24.3	98
SLM LT SP		42 35	103	35	7.5	5.9	70	60	106	478	53	68.9	11.5	96	84.5	3.2	103	27.0	23.6	94
LAKE PROVIDENCE			STONEVILLE 825						100 PERCENT											
SLM		41 35	102	32	5.8	4.0	90	60	130	472	53	70.2	10.2	94	84.3	2.9	104	26.4	24.7	100
LM+		50 36	110	38	6.0	5.1	80	60	144	344	63	70.3	10.1	94	83.7	3.6	100	26.4	24.5	99
LM		51 35	100	34	6.5	5.2	80	60	176	638	58	70.4	9.6	92	81.8	3.3	96	26.5	23.6	95
SLM		41 35	100	35	6.0	5.3	90	60	170	434	49	70.7	10.3	95	82.7	3.1	99	26.2	24.9	101
MISSISSIPPI																				
NATCHEZ			STONEVILLE 256						100 PERCENT											
SLM		41 36	121	42	6.6	5.0	100	60	92	322	68	70.3	10.1	94	83.0	3.9	97	26.0	25.0	102
LM+		50 36	114	41	6.9	5.5	80	60	136	284	69	69.9	10.7	95	83.7	3.1	102	26.8	24.0	96
SLM		41 35	110	39	6.9	5.3	90	70	96	418	58	70.3	10.3	94	85.0	2.9	106	26.6	24.4	98
LOUISIANA																				
OAK RIDGE			DELTAPINE 55						100 PERCENT											
SLM		41 36	114	39	6.8	5.3	110	60	68	272	62	68.7	10.5	92	84.2	3.3	102	28.6	27.3	106
SLM		41 36	120	41	7.4	5.2	110	70	50	200	69	70.1	9.8	92	82.9	3.8	97	25.4	25.1	104
LM		51 36	111	41	6.5	5.4	80	60	86	446	77	69.8	10.5	94	84.9	2.8	106	26.4	24.4	99
SLM		41 35	106	36	7.0	5.4	70	60	70	536	57	69.3	10.2	92	84.7	2.9	105	27.1	23.6	94
SICILY ISLAND			STONEVILLE 213						100 PERCENT											
SLM		41 35	103	33	6.3	4.5	110	90	50	280	50	69.0	10.5	92	82.9	3.4	99	28.9	27.8	107
SLM		41 35	106	33	6.6	4.9	120	80	86	252	54	69.4	10.4	93	83.2	3.8	98	26.9	24.5	98
LM		51 35	103	34	6.4	5.0	90	60	160	398	53	66.3	10.4	86	82.8	3.2	99	27.7	23.5	93
LM		51 35	93	33	6.5	5.3	70	60	226	344	47	66.5	10.0	86	81.5	3.6	95	28.3	23.1	90
MISSISSIPPI																				
CLARKSDALE			STONEVILLE 213						100 PERCENT											
SLM+		40 35	107	36	7.1	5.5	110	80	98	280	54	69.9	10.9	96	83.8	3.7	100	26.0	25.1	102
SLM		41 35	103	32	7.2	5.5	110	70	132	432	54	68.4	10.5	91	85.0	3.1	105	27.2	23.4	93
SLM		41 35	108	38	6.6	5.6	80	60	164	430	58	69.8	10.7	95	84.0	2.8	104	26.9	23.8	95

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH CENTRAL														
MISSISSIPPI														
DUNCAN			DELTAPINE 61				100 PERCENT							
SLM	41	35	1.13	43	46	80	23	7.4	1.8	2.1	1	3	101	5.9
SLM	41	36	1.15	44	38	81	24	8.4	1.4	2.3	1	3	103	6.0
SLM	41	36	1.13	45	44	81	23	8.5	1.6	2.3	1	3	102	5.1
GORE SPRINGS			DELTAPINE 16				80 PERCENT							
SLM	41	35	1.11	44	43	85	22	6.5	1.9	2.7	1	3	100	5.6
SLM	41	36	1.11	44	42	85	23	7.1	1.6	2.5	1	3	102	6.6
LM+	50	36	1.10	44	40	81	23	7.2	2.7	3.6	1	3	100	6.7
GREENVILLE			DELTAPINE 61				100 PERCENT							
M	31	36	1.15	45	43	84	23	8.3	1.1	1.8	0	3	104	5.6
SLM	41	36	1.12	43	41	80	22	8.2	1.5	2.5	1	3	101	6.1
SLM	41	36	1.13	44	38	76	23	8.3	1.5	2.4	1	2	103	6.0
GREENWOOD			DELTAPINE 55				100 PERCENT							
SLM	41	36	1.13	45	45	88	23	6.5	2.2	3.1	2	3	100	6.4
SLM	41	35	1.08	43	40	85	24	6.9	2.2	3.1	1	3	101	6.3
SLM	41	36	1.09	43	33	85	21	7.0	1.8	3.3	1	3	101	6.8
HOLLANDALE			DELTAPINE 55				100 PERCENT							
SLM	41	36	1.13	44	45	86	23	6.4	2.3	2.9	1	3	103	7.2
LM+	50	36	1.15	45	42	85	22	6.7	2.4	3.5	1	2	101	6.8
LM	51	36	1.13	42	39	83	23	7.2	3.1	4.1	2	3	100	7.7
INDIANOLA			DES 56				100 PERCENT							
SLM	41	35	1.11	46	45	87	23	5.6	3.5	3.6	2	3	97	7.0
LM	51	36	1.13	46	44	84	24	7.2	3.4	4.4	3	3	95	7.1
LM	51	36	1.12	43	31	85	23	7.0	4.8	6.2	2	3	97	8.4
INDIANOLA			STONEVILLE 213				100 PERCENT							
SLM	41	36	1.13	46	48	84	22	7.5	2.2	2.7	1	3	102	5.8
LM+	50	36	1.11	45	43	80	23	7.5	3.2	4.5	2	3	100	7.5
LM	51	36	1.12	45	39	85	23	7.7	3.8	5.6	1	2	100	8.3

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979.

State, Production Area, Chronological sampling, and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflectance	Yellowness	Composite	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
Grade	Staple																		
Name Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH CENTRAL																			
MISSISSIPPI																			
DUNCAN			DELTAPINE 61					100 PERCENT											
SLM	41	35	109	37	6.7	5.5	90	60	108	488	61	70.2	10.3	94	83.4	3.1	101	26.2	24.9	101
SLM	41	36	116	40	7.5	6.3	80	60	112	304	68	70.1	10.4	94	84.0	3.5	101	25.3	25.1	104
SLM	41	36	117	40	7.9	6.0	90	60	88	256	71	69.1	10.5	93	83.1	3.0	101	26.1	24.7	101
GORE SPRINGS			DELTAPINE 16					80 PERCENT											
SLM	41	35	110	36	6.4	4.9	120	60	58	194	61	68.9	10.7	93	84.6	3.1	104	26.2	24.6	100
SLM	41	36	109	37	7.2	5.7	110	70	68	246	61	70.7	10.7	97	84.6	3.3	103	25.7	25.0	103
LM+	50	36	106	39	6.6	5.8	110	70	100	280	62	70.1	10.6	95	83.7	2.9	103	25.8	24.5	100
GREENVILLE			DELTAPINE 61					100 PERCENT											
M	31	36	116	42	7.5	6.3	90	60	106	356	68	71.9	10.2	97	84.8	3.4	103	26.2	24.7	100
SLM	41	36	114	39	7.7	6.1	80	60	86	538	69	69.8	10.4	94	84.4	3.2	103	27.1	23.7	95
SLM	41	36	125	39	8.7	6.5	110	60	72	316	66	71.2	10.2	96	85.5	3.1	106	26.8	23.6	95
GREENWOOD			DELTAPINE 55					100 PERCENT											
SLM	41	36	113	39	6.6	5.0	90	60	124	482	61	68.2	11.0	92	83.3	3.4	100	25.7	24.8	102
SLM	41	35	110	39	6.8	5.5	90	60	70	364	59	70.5	10.7	96	84.2	3.2	103	26.5	24.0	97
SLM	41	36	111	38	7.2	6.2	100	70	74	406	57	68.7	10.4	91	84.2	3.5	101	26.7	23.5	95
HOLLANDALE			DELTAPINE 55					100 PERCENT											
SLM	41	36	111	36	6.7	5.2	80	60	62	252	52	71.6	10.4	97	84.0	3.3	102	25.8	24.9	102
LM+	50	36	116	40	6.8	5.5	80	60	80	366	67	69.9	10.5	94	83.5	3.4	100	26.0	25.0	102
LM	51	36	115	39	7.2	5.5	70	60	96	426	64	70.3	10.3	94	84.8	3.0	105	26.0	23.9	98
INDIANOLA			DES 56					100 PERCENT											
SLM	41	35	108	35	6.2	4.5	100	70	74	338	52	68.2	10.8	92	82.5	3.4	98	28.5	27.4	107
LM	51	36	111	39	6.4	5.2	110	80	88	148	64	67.8	10.7	90	83.4	3.2	101	26.3	24.2	98
LM	51	36	113	38	7.7	5.7	100	60	114	366	59	67.3	10.6	89	82.7	3.5	98	26.5	23.9	97
INDIANOLA			STONEVILLE 213					100 PERCENT											
SLM	41	36	110	39	6.6	5.6	110	70	88	292	59	70.0	10.9	96	83.9	3.2	102	25.9	25.1	103
LM+	50	36	108	36	6.9	5.3	100	70	76	344	58	70.0	10.7	95	84.0	3.2	102	26.2	24.0	98
LM	51	36	108	38	7.2	5.4	80	60	134	444	65	70.9	10.7	97	85.2	3.1	105	26.5	24.3	98

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH CENTRAL														
MISSISSIPPI														
INDIANOLA			STONEVILLE 825				100 PERCENT							
LM+	50	36	1.14	48	47	87	23	5.9	2.9	3.9	1	3	102	7.2
LM	51	36	1.10	44	43	87	23	6.3	3.8	4.8	2	3	99	7.3
LM	51	35	1.14	45	43	86	22	6.2	2.8	4.8	1	2	100	7.7
LAKE CORMORANT			COKER 315				100 PERCENT							
LM+	50	37	1.18	45	42	90	25	6.7	3.5	4.6	2	3	100	7.8
1/ LM	51	37	1.15	44	40	88	25	6.5	3.1	4.1	2	2	100	7.2
LM	51	37	1.17	45	39	86	25	7.6	3.8	5.0	2	2	97	8.5
LYON			STONEVILLE 213				100 PERCENT							
SLM	41	36	1.12	46	48	81	22	6.8	2.8	3.5	2	3	98	6.2
LM	51	36	1.10	45	41	81	23	6.8	3.9	4.9	2	3	99	7.5
SLM LT SP	42	35	1.09	44	31	81	23	7.6	5.0	6.2	1	4	101	8.9
MORGAN CITY			DES 24				100 PERCENT							
SLM	41	36	1.13	46	47	85	23	6.9	2.7	2.8	2	3	96	6.2
LM+	50	35	1.14	44	42	83	24	7.7	2.5	3.2	1	3	100	7.0
LM	51	36	1.12	44	40	84	24	7.9	3.4	4.6	2	3	98	7.6
SCOTT			DELTAPINE 26				100 PERCENT							
M	31	35	1.11	46	44	86	24	7.5	1.3	1.7	0	2	104	5.0
SLM+	40	36	1.12	44	38	88	24	7.6	1.4	2.4	0	2	104	6.1
SLM+	40	36	1.12	44	38	84	24	7.6	1.6	2.5	0	3	104	5.7
SCOTT			DELTAPINE 41				100 PERCENT							
LM	51	36	1.14	45	43	88	25	6.3	3.9	5.1	2	2	99	8.1
LM+	50	36	1.12	44	42	88	24	6.4	2.7	3.5	1	2	102	6.9
LM+	50	36	1.13	44	37	86	24	7.1	2.6	3.9	1	2	102	7.3
MISSOURI														
SENATH			DELTAPINE 55				75 PERCENT							
SLM	41	36	1.06	44	45	84	23	6.4	2.0	2.6	1	3	101	5.6
SLM	41	36	1.11	47	46	88	24	7.1	2.1	2.8	1	3	101	5.8
SLM	41	36	1.11	44	39	82	22	7.8	2.5	3.8	1	3	101	6.4

1/ Reduced from 41 because of bark.

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979.

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
Grade		Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflectance	Yellowness	Composite	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH CENTRAL																				
MISSISSIPPI																				
INDIANOLA				STONEVILLE 825					100 PERCENT											
LM+		50	36	114	40	6.4	5.0	100	60	140	360	59	70.0	10.5	94	83.0	3.6	98	25.2	25.0	104
LM		51	36	107	40	6.3	5.6	110	60	114	398	61	69.1	10.7	93	84.1	2.9	103	26.4	24.5	99
LM		51	35	112	41	6.2	5.4	80	70	142	370	63	70.1	9.8	92	82.7	2.8	101	26.7	24.3	98
LAKE CORMORANT				COKER 315					100 PERCENT											
LM+		50	37	125	43	6.8	5.5	90	60	144	876	69	67.4	10.6	89	82.8	3.7	97	25.8	24.5	100
1/ LM		51	37	117	41	6.8	6.1	100	60	194	394	71	68.4	10.1	90	83.1	3.0	101	26.7	24.1	97
LM		51	37	114	41	6.8	5.3	80	60	200	650	68	68.0	10.1	89	82.6	2.8	100	26.8	23.9	96
LYON				STONEVILLE 213					100 PERCENT											
SLM		41	36	111	36	6.7	5.2	100	60	102	300	62	68.5	10.5	91	83.0	3.7	98	26.2	24.5	100
LM		51	36	106	35	7.0	5.9	100	60	150	322	61	69.3	10.9	94	84.4	3.2	103	26.4	24.1	98
SLM LT SP		42	35	107	37	6.6	5.5	70	60	142	470	62	70.4	11.7	99	84.7	3.0	104	26.4	24.1	98
MORGAN CITY				DES 24					100 PERCENT											
SLM		41	36	112	37	6.9	5.2	120	80	106	344	59	68.3	10.8	92	83.6	3.3	101	28.9	27.5	106
LM+		50	35	117	39	7.5	4.7	90	60	100	358	62	68.9	10.8	93	84.1	3.4	101	25.7	25.1	103
LM		51	36	112	40	7.6	6.4	90	60	148	502	66	67.6	10.6	89	82.1	3.3	97	26.4	24.3	98
SCOTT				DELTAPINE 26					100 PERCENT											
M		31	35	124	42	7.3	6.1	110	70	40	250	70	71.3	9.8	95	83.6	3.3	101	26.4	24.3	98
SLM+		40	36	116	40	7.7	6.2	100	60	84	306	70	71.5	10.1	96	84.7	3.6	102	25.8	24.9	102
SLM+		40	36	122	40	7.5	6.2	110	70	44	220	68	71.3	10.0	95	85.4	3.1	106	26.7	23.9	96
SCOTT				DELTAPINE 41					100 PERCENT											
LM		51	36	121	43	6.8	5.4	90	60	102	346	69	69.0	10.9	94	83.1	3.1	100	25.6	25.0	103
LM+		50	36	119	41	7.0	5.4	80	70	62	308	66	71.1	10.1	95	83.8	3.3	101	25.7	25.0	103
LM+		50	36	120	39	7.7	5.7	90	60	76	262	68	71.8	9.9	96	83.5	2.7	103	25.8	24.9	102
MISSOURI																				
SENATH				DELTAPINE 55					75 PERCENT											
SLM		41	36	112	38	6.4	5.4	100	70	114	290	60	70.1	10.5	95	82.8	3.4	98	28.3	28.1	110
SLM		41	36	120	40	7.1	5.1	90	60	104	208	82	69.4	10.7	94	83.0	3.7	98	26.4	24.8	100
SLM		41	36	114	38	7.4	5.3	90	60	62	278	59	68.1	11.0	92	83.1	3.4	99	26.0	24.3	99

1/ Reduced from 41 because of bark.

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH CENTRAL														
MISSOURI														
WARDELL			STONEVILLE 213				99 PERCENT							
SLM	41	36	1.09	45	52	90	22	6.0	1.4	1.5	2	3	99	5.2
SLM	41	36	1.11	46	46	85	23	7.3	1.8	2.7	1	3	101	5.9
SLM	41	36	1.11	45	38	90	25	6.8	1.9	2.8	1	3	102	6.4
TENNESSEE														
ALAMO			DELTAPINE 55				75 PERCENT							
SLM	41	35	1.11	45	41	86	24	7.3	1.9	2.5	1	4	101	5.6
SLM	41	35	1.07	42	40	83	24	7.8	2.3	3.8	1	3	101	6.6
SLM	41	35	1.13	44	38	82	23	7.9	1.9	2.8	1	3	101	6.5
FRIENDSHIP			STONEVILLE 213				83 PERCENT							
SLM	41	35	1.13	47	46	83	24	7.6	1.8	2.4	1	4	101	5.8
SLM+	40	35	1.09	47	44	83	23	7.7	1.3	2.5	1	4	102	6.0
SLM	41	35	1.09	46	37	84	23	7.7	1.5	2.1	1	4	102	6.4
MISSISSIPPI														
HAMILTON			DELTAPINE 61				70 PERCENT							
SLM	41	35	1.10	45	47	83	21	7.6	1.9	2.7	2	3	99	6.3
SLM	41	35	1.12	46	47	78	22	8.6	2.1	3.0	2	3	100	6.5
SLM	41	35	1.12	44	36	79	22	8.2	2.1	3.2	2	2	100	6.7
TENNESSEE														
OBION			STONEVILLE 731N				75 PERCENT							
SLM	41	36	1.12	46	38	86	24	6.9	2.0	2.9	1	3	101	6.1
SLM	41	35	1.09	44	36	83	23	6.5	2.1	3.4	1	3	101	6.7
SOUTH WEST														
SOUTH TEXAS														
BISHOP			TAMCOT SP-37				99 PERCENT							
SLM	41	33	0.99	44	36	78	23	7.0	2.2	3.0	1	4	101	6.6
LM+	50	33	1.00	44	42	86	21	5.9	3.2	4.4	1	3	100	7.3
SLM	41	33	1.02	43	36	81	21	6.3	2.4	3.2	1	3	101	7.0
SLM LT SP	42	33	0.99	44	39	85	21	6.2	2.2	2.8	2	4	97	7.4

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979.

State, Production Area, Chronological sampling, and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
Grade	Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Blue-ness	Com-posite
Name Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH CENTRAL																			
MISSOURI																			
WARDELL			STONEVILLE 213					99 PERCENT											
SLM	41 36	111	37	6.2	5.0	120	90	96	160	57	69.6	10.3	93	82.6	3.2	99	28.3	28.2	110
SLM	41 36	113	39	6.7	5.3	110	100	112	244	60	68.7	10.6	92	82.9	3.5	98	25.2	25.6	106
SLM	41 36	120	39	7.2	5.2	110	70	70	222	64	68.2	10.5	90	83.5	3.3	100	26.4	24.0	97
TENNESSEE																			
ALAMO			DELTAPINE 55					75 PERCENT											
SLM	41 35	118	41	6.8	5.6	110	90	90	260	72	69.4	11.1	95	84.0	3.5	101	24.7	25.7	107
SLM	41 35	112	40	7.2	5.9	110	70	74	414	67	67.8	11.0	91	82.5	3.4	98	26.1	24.1	98
SLM	41 35	114	40	6.7	5.1	120	70	38	180	67	69.6	10.7	94	84.2	3.1	103	26.3	24.5	99
FRIENDSHIP			STONEVILLE 213					83 PERCENT											
SLM	41 35	113	40	6.8	5.8	110	80	126	236	62	68.5	10.8	92	83.5	3.8	98	25.2	25.6	106
SLM+	40 35	111	39	7.0	5.5	120	70	82	208	59	69.3	11.0	95	82.9	3.3	99	25.9	24.5	100
SLM	41 35	115	38	6.9	5.3	110	70	94	184	61	69.2	11.2	95	84.2	3.2	103	27.3	23.9	95
MISSISSIPPI																			
HAMILTON			DELTAPINE 61					70 PERCENT											
SLM	41 35	100	32	6.8	5.1	110	70	94	358	51	68.0	10.4	90	83.5	3.3	100	26.3	24.7	100
SLM	41 35	108	38	7.4	6.0	110	70	82	398	65	68.1	10.6	91	84.1	3.2	102	26.6	24.5	99
SLM	41 35	109	39	7.8	6.8	100	60	116	402	64	68.7	10.6	92	83.8	3.1	102	26.2	24.1	98
TENNESSEE																			
OBION			STONEVILLE 731N					75 PERCENT											
SLM	41 36	117	40	7.3	5.7	90	60	78	314	63	69.6	11.1	96	84.5	3.9	100	26.2	23.7	96
SLM	41 35	118	39	7.8	5.9	110	70	78	242	58	69.8	10.9	95	85.1	3.9	102	26.9	23.6	95
SOUTH WEST																			
SOUTH TEXAS																			
BISHOP			TAMCOT SP-37					99 PERCENT											
SLM	41 33	89	27	6.5	4.0	80	60	74	190	46	71.0	11.4	99	85.0	3.3	104	26.8	24.5	98
LM+	50 33	94	30	5.7	4.4	110	60	52	134	50	70.6	10.3	95	84.6	2.8	105	26.5	24.5	99
SLM	41 33	91	28	6.0	4.4	80	70	50	222	48	71.1	10.5	97	83.4	3.4	100	27.8	23.8	94
SLM LT SP	42 33	94	30	5.6	4.3	100	70	44	242	46	68.0	11.6	94	85.0	3.5	103	30.8	26.1	97

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
	Grade	Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH WEST														
SOUTH TEXAS														
BROWNSVILLE			GP 3774				87 PERCENT							
SLM	41	33	1.04	46	41	84	22	6.7	2.0	2.8	1	3	102	6.4
SLM+	40	34	1.04	46	41	83	21	6.8	2.0	2.5	1	3	102	6.1
SLM	41	33	1.05	46	39	80	21	6.6	2.5	3.0	1	3	101	6.1
GANADO			DELTAPINE 16				85 PERCENT							
M LT SP	32	35	1.12	46	48	83	23	7.1	1.9	2.4	2	4	100	6.4
SLM LT SP	42	35	1.09	44	45	81	22	7.1	2.4	3.5	3	3	94	8.6
SLM LT SP	42	35	1.10	42	43	82	22	7.2	2.9	4.1	3	3	93	8.5
HARLINGEN			STONEVILLE 256				81 PERCENT							
SLM	41	34	1.10	43	38	91	23	5.3	2.0	2.7	1	3	102	6.9
SLM	41	34	1.06	45	38	90	21	5.1	2.5	3.3	2	3	100	6.7
SLM	41	34	1.06	47	45	92	21	5.6	2.4	3.1	1	4	101	6.0
MISSION			MCNAIR 220				90 PERCENT							
SLM	41	35	1.07	46	38	93	23	5.3	3.4	4.4	2	4	100	8.5
LM	51	34	1.09	46	39	84	23	5.4	3.4	4.4	1	4	101	7.5
LM	51	34	1.05	47	40	86	23	5.3	4.1	5.1	2	4	99	8.1
PALACIOS			DELTAPINE 61				75 PERCENT							
SLM	41	35	1.12	50	56	81	23	7.6	3.7	4.4	2	3	96	6.4
SLM	41	35	1.13	49	50	81	23	7.5	3.0	3.6	2	3	96	6.6
LM LT SP	52	35	1.10	47	45	82	22	7.0	3.5	4.6	5	3	60	8.6
RAYMONDVILLE			STONEVILLE 213				99 PERCENT							
SLM	41	34	1.08	48	45	87	23	6.2	2.0	2.2	1	4	102	6.5
SLM	41	34	1.06	46	41	81	23	6.3	2.0	2.9	2	4	100	5.4
SLM	41	34	1.08	48	43	82	22	6.1	1.8	2.8	1	4	103	6.4
SAN JUAN			TPSA 9070				100 PERCENT 1/							
SLM	41	34	1.08	46	43	91	21	5.3	2.6	3.3	1	4	101	7.8
SLM	41	35	1.09	45	43	88	22	5.3	2.9	3.8	2	4	101	7.2
SLM	41	34	1.06	46	43	91	21	4.9	2.6	3.6	2	4	100	7.7

1/ 100 percent selected for tests, less than 100 percent in the area.

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979.

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
Grade		Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Blue-ness	Com-posite
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH WEST																				
SOUTH TEXAS																				
BROWNSVILLE				GP 3774						87 PERCENT										
SLM		41	33	99	30	6.3	4.4	120	60	132	300	54	70.5	11.0	97	85.3	3.1	106	25.7	24.9	102
SLM+		40	34	93	26	6.0	4.1	120	60	36	184	46	72.3	10.9	100	84.9	3.0	105	26.0	25.0	102
SLM		41	33	96	29	6.2	4.4	80	70	66	412	53	70.3	11.1	97	85.5	3.1	106	26.6	24.7	100
GANADO				DELTAPINE 16						85 PERCENT										
M LT SP		32	35	104	36	6.2	4.8	100	80	112	248	63	68.1	11.5	94	83.1	3.3	100	25.1	25.3	105
SLM LT SP		42	35	92	30	6.0	4.5	80	60	130	536	53	68.2	10.9	92	84.4	3.1	103	26.7	24.3	98
SLM LT SP		42	35	93	30	5.7	4.3	70	60	120	688	48	67.2	10.2	88	84.5	3.1	104	28.2	23.6	92
HARLINGEN				STONEVILLE 256						81 PERCENT										
SLM		41	34	111	36	6.3	4.5	110	70	162	344	68	69.1	11.6	96	84.6	3.2	103	25.0	25.0	104
SLM		41	34	107	35	5.9	4.3	110	60	112	534	61	70.2	11.1	97	84.9	3.2	104	26.8	24.4	98
SLM		41	34	105	35	5.9	4.7	110	70	78	206	63	71.4	10.9	98	84.1	3.2	102	26.1	24.7	101
MISSION				MCNAIR 220						90 PERCENT										
SLM		41	35	95	28	5.4	3.8	110	70	136	190	51	69.4	11.5	97	84.0	3.6	100	26.2	24.6	100
LM		51	34	119	41	6.3	4.8	110	70	84	162	71	69.6	12.0	99	84.4	3.4	102	25.7	24.7	101
LM		51	34	97	38	5.9	4.6	100	60	106	192	59	67.5	11.5	93	82.5	3.8	96	26.4	24.3	98
PALACIOS				DELTAPINE 61						75 PERCENT										
SLM		41	35	113	38	6.8	5.0	110	70	176	354	69	67.8	11.1	92	84.1	3.1	103	25.0	25.3	105
SLM		41	35	111	38	6.6	4.8	100	70	166	448	69	67.9	10.7	90	83.8	3.2	102	25.4	25.3	104
LM LT SP		52	35	104	36	6.4	5.1	90	60	168	536	63	64.4	10.2	83	82.7	3.3	99	27.2	23.9	95
RAYMONDVILLE				STONEVILLE 213						99 PERCENT										
SLM		41	34	106	32	6.2	4.7	110	70	142	264	55	69.5	11.4	97	83.8	3.3	101	25.0	25.3	105
SLM		41	34	101	34	6.4	4.9	120	70	112	224	58	70.0	10.6	95	83.9	3.2	102	26.9	24.5	98
SLM		41	34	104	34	6.6	4.8	110	80	96	282	58	68.9	11.5	96	83.8	3.4	101	26.5	24.0	97
SAN JUAN				TPSA 9070						100 PERCENT 1/										
SLM		41	34	94	30	5.5	4.2	90	70	80	258	51	70.5	11.1	97	84.1	3.2	102	26.8	24.2	97
SLM		41	35	116	37	6.0	4.5	100	70	98	254	62	70.5	11.3	98	84.2	3.4	102	26.0	24.6	100
SLM		41	34	100	30	5.7	4.0	110	60	54	16	55	69.3	11.8	97	83.6	3.5	100	26.0	24.4	100

1/ 100 percent selected for tests, less than 100 percent in the area.

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
			2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Grade		Staple												
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH WEST														
SOUTH TEXAS														
SANTA ROSA			STONEVILLE 213				100 PERCENT							
SLM	41	34	1.04	49	47	81	22	6.8	1.9	2.5	2	4	101	6.1
SLM+	40	34	1.05	46	43	82	21	6.8	1.7	2.2	1	4	103	6.0
SLM	41	34	1.02	48	45	83	22	6.8	2.0	2.8	1	3	101	6.3
TAFT			TAMCOT SP-37				99 PERCENT							
SLM	41	32	1.02	43	39	81	20	6.5	2.0	2.5	1	4	102	6.5
SLM	41	32	1.03	44	44	83	21	6.3	1.9	2.6	1	3	102	6.2
SLM	41	33	1.04	43	38	78	23	6.5	1.9	2.6	2	3	100	6.6
SLM LT SP	42	33	1.04	43	44	78	21	6.2	1.9	2.5	4	3	88	6.7
CENTRAL TEXAS														
BATESVILLE			STONEVILLE 213				95 PERCENT							
SLM	41	34	1.08	46	47	88	24	6.5	3.2	3.7	1	4	101	7.0
SLM	41	35	1.07	46	46	84	24	6.9	1.1	2.0	1	4	104	6.0
SLM	41	35	1.07	44	43	85	22	6.6	2.2	2.8	1	4	102	6.2
NAVASOTA			DELTAPINE 16				95 PERCENT							
SLM	41	36	1.12	45	45	84	25	7.9	1.0	2.4	1	3	102	5.4
SLM	41	36	1.12	45	46	81	21	7.4	1.4	2.1	1	3	101	4.9
SLM	41	36	1.15	43	44	82	23	7.6	1.4	1.8	1	3	103	5.3
NORTHWEST TEXAS														
ACKERLY			LOCKETT 4789A				75 PERCENT							
SLM	41	32	1.02	44	35	89	23	6.8	2.9	4.2	1	4	104	8.1
M	31	32	1.00	45	33	88	22	7.4	1.7	2.8	1	4	104	7.7
M LT SP	32	32	1.02	43	30	85	22	6.4	1.5	2.7	1	5	103	7.7
COTTON CENTER			PAYMASTER 266				70 PERCENT							
SLM LT SP	42	32	0.98	45	31	86	25	8.3	4.0	5.3	2	5	100	8.4
SLM SP	43	31	0.97	46	27	78	22	7.4	3.3	5.0	3	6	96	10.1
SLM LT SP	42	31	0.97	44	29	79	21	8.1	3.4	4.8	2	5	99	9.9 1/
LORENZO			PAYMASTER 303				75 PERCENT							
SLM	41	32	1.01	45	27	83	23	7.4	2.2	3.5	1	4	104	8.0
SLM LT SP	42	31	1.00	44	27	86	21	6.7	2.7	4.5	2	5	101	8.6
M LT SP	32	31	1.00	42	28	84	21	6.6	2.0	3.8	1	5	102	9.0

1/ Cotton stuck to processing rolls.

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979.

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
	Grade	Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Blue-ness	Com-posite
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH WEST																				
SOUTH TEXAS																				
SANTA ROSA				STONEVILLE 213						100 PERCENT										
SLM	41	34	99	30	6.2	4.5	120	70	120	220	50	69.3	11.7	97	84.8	3.2	104	25.7	25.2	103
SLM+	40	34	106	33	6.5	4.7	110	70	128	340	58	71.3	10.7	97	84.3	3.0	104	27.3	24.3	97
SLM	41	34	96	30	6.3	4.4	120	80	46	188	48	69.2	10.9	94	84.1	3.1	103	27.3	24.3	97
TAFT				TAMCOT SP-37						99 PERCENT										
SLM	41	32	86	26	5.5	4.0	80	60	184	612	45	70.3	11.1	97	85.0	3.1	105	26.5	24.3	98
SLM	41	32	93	30	5.9	4.6	90	60	38	196	51	69.8	10.7	95	84.0	3.1	102	26.2	24.9	101
SLM	41	33	97	31	6.0	4.4	90	70	48	266	56	70.3	10.9	96	84.5	3.2	103	26.3	25.0	101
SLM LT SP	42	33	93	30	5.8	4.5	100	60	48	454	49	64.9	10.8	85	83.8	3.5	100	28.6	23.6	91
CENTRAL TEXAS																				
BATESVILLE				STONEVILLE 213						95 PERCENT										
SLM	41	34	107	36	6.4	4.7	100	70	86	324	61	70.2	12.1	100	83.9	3.2	102	25.2	25.5	106
SLM	41	35	104	34	6.7	5.0	110	60	110	326	50	71.7	11.4	100	84.3	2.9	104	26.0	24.9	102
SLM	41	35	107	36	6.5	5.6	100	60	110	522	60	70.7	11.2	98	83.4	3.5	99	26.4	24.7	100
NAVASOTA				DELTAPINE 16						95 PERCENT										
SLM	41	36	117	41	7.0	5.5	110	70	62	172	68	71.2	10.8	98	83.8	3.2	102	25.5	25.2	104
SLM	41	36	114	39	7.2	5.6	110	90	56	142	66	70.4	10.2	94	84.7	3.2	104	28.9	27.6	107
SLM	41	36	117	39	7.4	5.8	110	70	32	182	69	70.4	10.1	94	83.4	3.4	100	27.0	24.4	98
NORTHWEST TEXAS																				
ACKERLY				LOCKETT 4789A						75 PERCENT										
SLM	41	32	101	33	6.7	5.2	70	60	124	366	44	70.4	11.7	99	84.0	3.4	101	26.0	23.9	98
M	31	32	91	31	6.3	5.2	90	60	74	528	49	70.5	11.7	99	85.0	3.1	105	26.6	24.2	98
M LT SP	32	32	100	31	6.5	4.9	90	60	50	708	47	69.2	12.4	99	83.5	3.4	100	27.0	23.8	95
COTTON CENTER				PAYMASTER 266						70 PERCENT										
SLM LT SP	42	32	104	35	6.9	5.9	80	60	134	566	25 1/	66.0	12.7	94	83.5	4.4	96	27.1	23.4	93
SLM SP	43	31	98	31	7.0	5.3	70	60	138	472	43	63.5	12.8	88	82.9	4.9	93	27.1	22.9	91
SLM LT SP	42	31	96	30 2/	6.9	5.4	70	60	128	380	41	68.3	12.4	98	82.3	4.8	92	27.9	23.1	91
LORENZO				PAYMASTER 303						75 PERCENT										
SLM	41	32	100	33	7.2	5.7	80	60	84	376	45	69.1	12.4	99	84.2	3.5	101	26.9	23.6	95
SLM LT SP	42	31	99	33	6.7	5.6	70	60	132	352	46	66.7	12.4	94	85.2	3.6	103	26.9	23.1	93
M LT SP	32	31	88	26 3/	6.3	5.5	70	60	108	148	25 1/	70.2	12.1	100	83.9	3.3	101	27.5	23.4	93

1/ This is an estimated value below the range of the test.
2/ End breakage too high to spin 50s yarn. 44s yarn spun and strength adjusted to equivalent of 50s.
3/ End breakage too high to spin 50s yarn. 36s yarn spun and strength adjusted to equivalent of 50s.

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste	
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color		
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.	
SOUTH WEST															
NORTHWEST TEXAS															
NEW DEAL			PAYMASTER 266				70 PERCENT								
SLM	41	32	1.00	45	29	83	25	7.7	3.2	4.6	1	4	103	9.2	
SLM LT SP	42	32	1.06	44	29	81	23	7.3	5.0	6.3	2	4	99	10.0	
SLM LT SP	42	31	0.97	45	32	81	20	7.4	3.1	4.3	2	5	99	9.0	
PLAINS			DUNN 119				90 PERCENT								
SLM	41	34	1.08	43	33	89	25	6.5	3.0	4.8	1	4	104	9.3	
SLM	41	33	1.06	44	34	88	25	6.2	2.6	4.1	1	4	104	7.7	
SLM	41	34	1.07	44	31	92	24	7.0	2.9	4.3	1	4	103	9.5	
PLAINVIEW			PAYMASTER 303				75 PERCENT								
M LT SP	32	31	0.98	45	29	83	22	7.7	1.6	2.8	1	5	102	7.6	
M LT SP	32	31	0.95	44	32	77	21	7.3	1.6	3.0	2	5	100	7.8	1/
TAHOKA			PAYMASTER 266				85 PERCENT								
M	31	32	0.97	47	31	89	25	7.3	1.4	2.5	0	4	106	6.9	
M LT SP	32	31	1.01	43	28	85	23	6.5	2.3	3.9	1	5	102	8.0	
M LT SP	32	32	1.01	44	31	87	22	7.4	1.8	2.9	1	5	104	7.3	
WEST															
ARIZONA															
BOWIE			STONEVILLE 213				100 PERCENT 2/								
SM	21	35	1.07	45	45	79	22	7.7	1.0	2.1	0	4	106	6.6	
M	31	33	1.06	43	36	80	22	8.0	2.1	3.0	1	4	103	7.9	1/
SLM LT SP	42	33	1.04	43	35	82	22	7.5	2.7	4.1	2	5	101	9.5	
BUCKEYE			STONEVILLE 213				90 PERCENT								
SM	21	35	1.07	44	54	88	22	6.3	0.6	1.6	0	4	105	6.3	
M	31	34	1.08	45	53	86	23	7.0	1.0	1.8	1	4	104	6.7	
M	31	35	1.07	43	50	91	21	6.0	1.2	2.0	0	3	106	6.4	
BUCKEYE			DELTAPINE 61				99 PERCENT								
M	31	35	1.08	42	49	85	23	7.4	0.9	1.9	1	3	104	6.6	
M	31	35	1.08	42	52	84	24	7.1	0.7	2.5	0	3	106	7.0	
M	31	35	1.06	43	35	86	24	8.2	0.9	2.4	0	3	105	7.4	1/

1/ Cotton stuck to processing rolls.
2/ 100 percent selected for tests, less than 100 percent in the area.

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979.

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
			22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflectance	Yellowness	Composite	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
Grade		Staple																		
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH WEST																				
NORTHWEST TEXAS																				
NEW DEAL				PAYMASTER 266						70 PERCENT										
SLM		41 32	100	33	6.7	5.6	80	60	142	512	46	67.9	12.3	96	83.7	4.0	98	27.4	23.0	91
SLM LT SP		42 32	106	36	7.0	5.4	60	60	206	564	48	66.3	12.4	93	83.1	4.3	96	27.1	23.1	92
SLM LT SP		42 31	83	26 1/	5.9	5.5	70	60	98	188	25 2/	67.7	12.1	95	81.5	4.9	89	28.2	22.6	88
PLAINS				DUNN 119						90 PERCENT										
SLM		41 34	119	41	6.8	5.3	80	60	120	516	61	70.4	12.1	100	83.3	3.6	99	26.2	24.0	98
SLM		41 33	107	36	6.4	5.1	70	60	106	528	52	69.8	11.7	98	84.0	3.6	100	27.7	23.4	92
SLM		41 34	115	39	6.5	5.1	70	60	168	552	54	69.3	12.2	99	83.5	3.4	100	28.0	23.3	91
PLAINVIEW				PAYMASTER 303						75 PERCENT										
M LT SP		32 31	99	32	6.9	5.8	80	60	72	200	61	66.9	12.6	95	84.7	4.0	100	27.0	23.5	94
M LT SP		32 31	79	28	6.1	4.9	70	60	60	404	25 2/	66.3	12.5	94	82.9	4.2	95	27.4	23.2	92
TAHOKA				PAYMASTER 266						85 PERCENT										
M		31 32	109	38	7.1	6.0	100	60	118	228	48	70.1	12.0	99	83.3	3.4	100	26.7	23.7	95
M LT SP		32 31	94	34	5.8	4.4	70	60	88	486	45	66.3	12.8	95	83.7	3.9	99	27.3	23.0	91
M LT SP		32 32	108	37	6.8	5.5	90	60	70	320	50	68.4	12.2	97	83.6	3.5	100	27.8	23.4	92
WEST																				
ARIZONA																				
BOWIE				STONEVILLE 213						100 PERCENT 3/										
SM		21 35	96	30	6.5	5.5	90	60	106	202	41	71.8	11.3	100	84.1	3.4	101	26.1	25.0	102
M		31 33	94	31 4/	6.2	5.6	70	60	162	322	42	69.8	11.7	98	83.1	3.5	99	27.1	23.6	94
SLM LT SP		42 33	94	25 1/	5.6	5.4	130	60	62	924	25 2/	69.7	12.8	102	83.8	3.3	101	26.9	24.2	97
BUCKEYE				STONEVILLE 213						90 PERCENT										
SM		21 35	96	28	6.0	4.2	110	80	62	250	42	72.1	10.8	99	82.7	3.1	99	26.7	24.4	98
M		31 34	95	31	5.7	4.4	100	70	58	250	46	72.0	10.6	98	82.5	2.9	100	26.2	25.5	104
M		31 35	92	28 1/	5.2	4.7	110	70	64	240	25 2/	74.1	10.2	100	82.2	3.0	99	27.0	24.9	100
BUCKEYE				DELTAPINE 61						99 PERCENT										
M		31 35	93	31	5.9	5.0	90	60	128	518	42	71.8	10.7	98	83.4	3.5	99	25.2	25.9	107
M		31 35	98	32	6.1	5.0	110	70	62	382	46	72.7	10.3	99	84.4	2.9	104	26.0	24.8	101
M		31 35	100	34	6.7	5.1	90	60	64	254	49	72.2	10.2	97	81.9	3.2	97	26.9	23.9	96

1/ End breakage too high to spin 50s yarn. 36s yarn spun and strength adjusted to equivalent of 50s.
2/ This is an estimated value below the range of the test.
3/ 100 percent selected for tests, less than 100 percent in the area.
4/ End breakage too high to spin 50s yarn. 44s yarn spun and strength adjusted to equivalent of 50s.

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
WEST														
ARIZONA														
CASA GRANDE			DELTAPINE 61				90 PERCENT							
M	31	36	1.14	43	47	83	23	7.7	1.1	2.0	0	3	105	6.1
M	31	34	1.11	43	41	86	23	6.9	1.2	2.5	1	4	103	6.6
M	31	35	1.14	46	50	83	23	7.9	1.2	1.8	0	3	106	5.7
ELOY			DELTAPINE 70				95 PERCENT							
M	31	35	1.12	43	44	84	23	7.0	1.3	1.8	0	3	104	4.8
M	31	35	1.11	45	45	86	22	6.3	1.4	2.2	0	3	104	5.4
M	31	35	1.11	44	40	88	24	7.1	2.1	3.3	0	4	104	6.8
MARANA			DELTAPINE 55				75 PERCENT							
M	31	35	1.10	43	44	93	22	6.3	1.3	2.1	0	3	105	6.0
SLM	41	36	1.14	43	44	83	21	6.7	1.4	2.7	1	4	103	7.0
M	31	35	1.07	43	43	88	22	6.8	1.3	2.4	1	4	103	6.8
MOHAVE VALLEY			STONEVILLE 825				100 PERCENT							
M	31	35	1.07	44	49	91	21	5.3	1.1	1.8	0	3	105	6.4
M	31	35	1.08	43	48	86	22	5.5	1.0	1.9	0	3	106	6.3
M	31	34	1.06	43	49	85	21	5.4	1.1	2.2	0	3	104	6.9
PARKER			DELTAPINE 61				95 PERCENT							
M	31	35	1.09	44	45	84	23	6.7	1.2	2.0	1	3	102	6.2
M	31	35	1.06	43	50	87	23	7.0	0.9	1.6	1	3	104	5.6
M	31	34	1.08	43	45	88	22	6.7	0.8	2.1	0	3	105	6.9
M	31	35	1.11	45	47	85	23	7.4	0.7	1.6	0	3	104	6.4
PEORIA			DELTAPINE 61				89 PERCENT							
M	31	35	1.11	45	50	89	23	7.0	1.3	2.1	1	3	104	5.4
M	31	35	1.08	43	51	87	23	7.2	1.2	2.0	0	3	106	6.1
M	31	35	1.10	44	47	84	24	8.1	1.3	2.2	0	3	105	6.5
SAFFORD			STONEVILLE 256				100 PERCENT 1/							
M	31	35	1.10	43	46	90	22	6.2	1.1	2.2	0	4	106	6.0
M	31	34	1.12	45	44	88	21	6.8	1.1	2.2	0	4	106	6.3
M	31	35	1.12	44	44	85	22	6.9	0.9	1.5	0	4	107	6.2

1/ 100 percent selected for tests, less than 100 percent in the area.

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979.

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
	Grade	Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Blue-ness	Com-posite
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
WEST																				
ARIZONA																				
CASA GRANDE				DELTAPINE 61					90 PERCENT											
M		31	36	112	39	7.2	6.0	110	70	126	420	60	71.7	10.7	98	85.4	3.1	106	25.6	24.7	102
M		31	34	110	38	6.7	5.5	80	60	70	266	59	71.6	10.9	99	84.2	3.2	103	25.7	25.1	103
M		31	35	109	39	6.5	5.4	110	70	88	300	59	72.6	10.2	98	81.8	3.1	97	26.5	24.3	98
ELOY				DELTAPINE 70					95 PERCENT											
M		31	35	121	42	6.8	5.8	110	60	116	392	70	70.2	11.3	97	83.1	3.5	99	28.4	28.0	109
M		31	35	111	38	6.4	5.1	110	60	64	280	56	71.0	10.9	98	83.8	3.6	100	25.5	25.5	105
M		31	35	105	38	6.1	4.9	90	60	76	534	46	70.7	11.0	97	84.7	2.7	106	26.8	24.4	98
MARANA				DELTAPINE 55					75 PERCENT											
M		31	35	100	30	5.7	4.4	90	60	46	240	49	72.7	11.0	101	84.4	3.0	104	25.9	24.9	102
SLM		41	36	105	34	6.9	4.8	80	60	84	342	56	71.3	11.4	100	83.1	3.2	100	25.8	24.3	100
M		31	35	95	32	6.2	4.8	90	60	78	540	56	71.3	11.2	99	84.4	2.8	105	26.3	24.7	100
MOHAVE VALLEY				STONEVILLE 825					100 PERCENT											
M		31	35	91	29	5.2	4.5	110	70	30	230	43	72.4	10.3	98	82.9	3.1	100	26.6	24.6	99
M		31	35	93	28	5.5	4.1	100	60	58	268	45	72.1	10.6	98	84.5	3.4	102	26.5	24.3	98
M		31	34	88	30	5.1	4.5	80	60	74	414	43	73.6	10.1	99	83.5	3.0	102	26.4	24.9	101
PARKER				DELTAPINE 61					95 PERCENT											
M		31	35	103	33	6.0	4.6	110	70	46	314	51	71.5	10.7	98	83.2	3.3	100	27.8	23.6	93
M		31	35	100	30	6.7	4.9	110	70	44	248	48	72.2	10.4	98	83.0	3.1	100	26.8	24.4	98
M		31	34	94	32	5.8	5.0	100	60	64	234	45	73.1	10.0	98	83.0	3.1	100	27.0	24.5	98
M		31	35	97	34	6.0	4.9	70	60	68	444	52	72.3	9.9	97	82.1	3.3	97	26.6	24.3	98
PEORIA				DELTAPINE 61					89 PERCENT											
M		31	35	112	38	6.5	5.1	110	70	86	314	56	72.2	10.1	97	84.0	3.1	102	26.5	24.6	99
M		31	35	105	35	6.6	5.0	120	70	70	410	56	72.3	10.6	99	83.4	3.2	101	27.1	24.2	97
M		31	35	103	35	6.6	5.4	110	70	52	204	59	71.7	10.1	96	84.5	2.5	106	27.3	24.4	97
SAFFORD				STONEVILLE 256					100 PERCENT 1/											
M		31	35	110	38	6.4	4.8	120	70	78	302	61	72.3	11.3	101	84.1	3.2	102	25.6	25.0	103
M		31	34	102	35	6.3	5.0	110	60	72	168	58	72.2	10.9	99	81.5	3.1	97	25.7	25.4	104
M		31	35	103	34	6.4	5.2	90	70	70	366	52	71.4	11.3	99	83.6	3.7	99	25.6	24.9	102

1/ 100 percent selected for tests, less than 100 percent in the area.

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
WEST														
ARIZONA														
YUMA			DELTAPINE 61				96 PERCENT							
M	31	35	1.10	45	47	86	22	6.6	1.3	2.3	1	4	104	5.8
M	31	36	1.05	42	47	88	23	6.1	1.0	1.3	1	3	104	5.7
M	31	36	1.11	44	46	85	24	7.5	0.9	2.0	1	3	103	5.8
M	31	34	1.08	44	48	89	23	6.4	0.9	1.9	1	4	104	6.6
M	31	35	1.09	44	47	84	24	6.7	1.2	2.4	0	3	106	5.6
M	31	35	1.09	43	44	81	22	7.2	1.2	2.4	0	3	105	6.6
CALIFORNIA														
BAKERSFIELD			ACALA SJ-2				100 PERCENT							
1/ SLM	41	36	1.13	44	43	92	25	6.1	1.3	2.2	1	3	102	6.0
SLM	41	36	1.12	46	45	94	27	5.9	1.4	2.2	1	3	103	6.4
M	31	36	1.10	44	42	93	27	6.8	1.2	2.0	1	4	103	6.3
BAKERSFIELD			ACALA SJ-2				100 PERCENT							
M	31	35	1.10	46	41	89	24	6.1	1.0	1.5	1	4	103	4.9
M	31	35	1.12	45	42	94	24	5.9	0.9	1.6	1	3	102	6.3
SLM	41	35	1.05	43	39	87	24	6.2	2.1	3.3	1	3	102	7.5
BAKERSFIELD			ACALA SJ-2				100 PERCENT							
M	31	35	1.12	46	44	93	26	6.0	0.8	1.4	0	4	104	5.2
1/ SLM	41	36	1.11	44	42	88	25	6.3	0.8	1.8	0	3	105	5.5
M	31	35	1.08	46	44	92	24	6.5	0.8	1.9	0	3	105	6.5
BAKERSFIELD			ACALA SJ-2				99 PERCENT							
M	31	36	1.11	46	45	98	27	6.6	1.1	2.0	0	3	105	5.9
SLM	41	36	1.13	47	47	92	26	6.2	1.7	2.4	1	3	101	6.5
M	31	36	1.12	44	44	95	26	6.5	1.1	1.9	1	3	104	6.2
BUTTONWILLOW			ACALA SJ-2				100 PERCENT							
M	31	36	1.10	46	44	100	25	6.2	0.9	1.7	0	4	105	6.2
M	31	36	1.14	47	43	95	26	6.0	0.8	1.8	0	3	105	5.9
M	31	36	1.12	46	43	94	26	6.3	1.0	1.7	1	3	103	6.5

1/ Reduced from 31 because of grass.

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979.

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
Grade		Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflectance	Yellowness	Composite	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
WEST																				
ARIZONA																				
YUMA				DELTAPINE 61						96 PERCENT										
	M	31	35	107	36	6.4	5.2	110	60	36	202	56	71.7	11.5	101	83.3	3.3	100	26.6	24.5	99
	M	31	36	102	33	6.0	4.5	110	70	40	174	47	72.7	10.5	99	83.5	3.3	100	30.6	26.2	98
	M	31	36	104	35	6.5	5.0	100	70	56	320	57	72.4	10.6	99	84.0	3.2	102	27.5	24.0	95
	M	31	34	104	36	6.7	5.5	110	70	40	346	52	70.9	10.4	96	82.6	3.0	100	27.1	24.5	98
	M	31	35	98	32	6.0	4.6	90	60	54	640	47	73.0	10.2	99	83.4	3.1	101	27.9	23.9	94
	M	31	35	102	34	6.4	5.0	90	60	70	446	51	72.6	10.3	98	82.7	3.1	99	27.5	23.9	95
CALIFORNIA																				
BAKERSFIELD				ACALA SJ-2						100 PERCENT										
1/	SLM	41	36	119	43	6.3	5.3	70	70	130	502	63	68.6	11.3	94	83.0	3.5	98	25.9	24.4	100
	SLM	41	36	117	42	6.1	5.0	90	60	124	378	59	70.3	10.9	96	82.7	3.3	99	27.1	23.3	93
	M	31	36	104	40	7.4	4.4	100	60	110	416	76	69.7	11.0	96	83.0	2.9	101	27.6	24.0	95
BAKERSFIELD				ACALA SJ-2						100 PERCENT										
	M	31	35	128	44	6.5	5.2	100	60	144	258	70	69.6	11.4	97	83.0	3.0	100	26.8	23.8	96
	M	31	35	123	43	6.3	5.0	100	60	104	320	63	69.7	11.0	96	82.0	3.6	96	26.6	24.3	98
	SLM	41	35	103	36	6.0	5.0	80	60	164	682	45	69.2	11.1	95	83.1	3.2	100	26.9	24.2	97
BAKERSFIELD				ACALA SJ-2						100 PERCENT										
	M	31	35	125	44	6.5	5.0	100	60	124	314	68	71.4	11.0	98	83.4	3.4	100	26.2	24.6	100
1/	SLM	41	36	120	41	7.0	5.2	80	60	118	428	65	71.1	10.8	97	84.1	3.4	101	26.2	24.3	99
	M	31	35	115	42	6.4	5.5	100	70	104	250	57	69.6	11.2	96	82.2	3.2	98	26.7	24.3	98
BAKERSFIELD				ACALA SJ-2						99 PERCENT										
	M	31	36	127	46	6.5	5.4	110	70	110	304	69	70.9	11.1	98	83.0	3.7	98	26.4	24.4	99
	SLM	41	36	122	44	6.3	5.2	100	60	66	298	69	69.1	11.0	94	82.7	3.6	97	26.8	24.5	98
	M	31	36	123	42	6.5	5.1	110	70	118	342	62	71.6	10.9	99	84.3	3.3	102	27.5	23.4	93
BUTTONWILLOW				ACALA SJ-2						100 PERCENT										
	M	31	36	131	45	6.5	5.2	120	70	122	294	68	71.0	11.2	98	83.1	3.2	100	26.4	24.6	100
	M	31	36	131	46	7.0	5.5	100	60	126	548	76	71.7	10.8	98	83.5	3.3	100	26.3	24.6	100
	M	31	36	130	46	6.5	5.5	100	70	104	224	73	69.7	11.0	96	82.1	3.2	98	26.7	24.2	97

1/ Reduced from 31 because of grass.

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
			2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Grade		Staple												
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
WEST														
CALIFORNIA														
CANTUA CREEK			ACALA SJ-2				100 PERCENT							
M	31	36	1.09	47	44	90	26	5.9	1.2	2.1	0	3	105	5.4
SLM	41	36	1.12	46	38	92	27	6.4	2.2	2.9	1	3	104	6.3
SLM LT SP	42	35	1.06	44	32	84	24	6.1	2.1	3.6	3	4	92	7.5
CHOWCHILLA			ACALA SJ-2				95 PERCENT							
M	31	36	1.12	46	41	94	25	6.3	1.3	1.7	0	3	104	5.7
SLM	41	36	1.16	46	40	101	28	6.0	2.1	2.9	1	3	103	5.8
LM	51	36	1.14	45	41	94	27	5.7	2.9	4.0	2	2	99	8.1
DELANO			ACALA SJ-2				95 PERCENT							
SLM	41	35	1.11	44	39	98	26	5.9	1.5	2.2	2	4	99	6.4
SLM	41	36	1.14	45	41	94	26	6.0	1.3	2.4	1	3	101	7.1
M	31	35	1.11	45	44	97	27	6.1	0.8	1.6	1	4	103	5.7
FIVE POINTS			ACALA SJ-2				98 PERCENT							
M	31	35	1.10	47	46	99	25	6.3	1.3	2.1	0	4	105	6.3
M	31	36	1.11	46	38	96	29	6.3	1.1	1.9	0	4	106	6.3
SLM+	40	36	1.13	46	40	93	26	6.4	1.4	2.1	1	3	104	6.6
FRESNO			ACALA SJ-5				81 PERCENT							
M	31	36	1.12	47	44	97	27	5.7	1.1	1.7	0	3	105	5.2
SLM	41	36	1.15	47	39	88	28	6.5	2.0	2.7	0	3	104	6.1
SLM	41	36	1.15	46	39	96	27	6.5	1.8	2.9	1	4	104	6.4
KERMAN			ACALA SJ-5				78 PERCENT							
M	31	36	1.14	47	46	93	25	6.5	1.1	1.7	1	3	104	5.2
SLM+	40	36	1.12	47	43	90	27	6.6	2.7	3.7	1	3	103	6.2
M	31	36	1.12	46	45	86	26	6.6	1.0	1.6	0	4	104	6.3 1/
KINGSBURG			ACALA SJ-2				99 PERCENT							
SLM	41	36	1.14	46	42	95	25	6.0	1.9	2.8	1	4	101	6.6
SLM	41	36	1.14	46	43	96	28	6.5	1.5	2.2	2	3	101	6.4
SLM	41	35	1.09	45	38	97	25	6.2	1.0	1.9	2	3	98	6.4

1/ Cotton stuck to processing rolls.

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979.

State, Production Area, Chronological sampling, and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
Grade	Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflctance	Yellowness	Composite	Reflctance	Yellowness	Composite	Reflctance	Blueness	Composite
Name Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
WEST																			
CALIFORNIA																			
CANTUA CREEK			ACALA SJ-2					100 PERCENT											
M	31	36	129	49	6.0	5.0	80	60	112	198	74	71.9	11.0	99	83.1	3.3	100	25.7	24.7	101
SLM	41	36	130	46	6.9	5.5	100	60	124	262	70	70.7	10.9	97	82.4	3.4	97	26.7	24.2	97
SLM LT SP	42	35	112	38	6.3	4.8	70	60	142	246	53	61.0	11.4	80	80.5	3.9	91	28.1	22.6	88
CHOWCHILLA			ACALA SJ-2					95 PERCENT											
M	31	36	135	46	6.7	5.2	110	70	164	350	67	70.7	10.8	97	83.3	3.3	100	26.5	24.3	98
SLM	41	36	145	54	6.7	5.7	90	60	256	452	89	68.6	11.5	95	82.7	3.3	99	25.8	24.2	99
LM	51	36	133	50	6.4	5.5	90	60	150	276	77	66.9	10.1	87	81.9	3.4	96	27.4	23.6	94
DELANO			ACALA SJ-2					95 PERCENT											
SLM	41	35	127	44	6.6	5.4	90	60	152	442	63	69.1	11.3	95	83.6	3.4	100	27.4	23.8	94
SLM	41	36	126	46	6.1	5.4	80	60	162	224	69	68.7	11.3	94	83.5	3.6	99	26.0	24.8	101
M	31	35	136	50	7.0	6.1	110	70	198	362	72	69.7	11.1	96	84.5	3.3	103	26.4	23.7	96
FIVE POINTS			ACALA SJ-2					98 PERCENT											
M	31	35	126	43	6.0	4.8	110	90	80	244	63	70.8	11.2	98	82.8	3.5	98	25.3	25.0	103
M	31	36	129	49	6.3	5.9	110	70	70	272	71	70.8	11.4	99	81.4	3.5	95	26.2	24.5	100
SLM+	40	36	126	45	6.4	5.5	110	60	138	346	74	71.3	11.0	98	83.7	3.0	102	27.4	24.0	95
FRESNO			ACALA SJ-5					81 PERCENT											
M	31	36	141	53	6.5	5.7	90	70	106	300	80	71.3	11.0	98	83.8	3.2	102	25.6	24.7	102
SLM	41	36	144	54	7.3	6.0	100	70	182	380	99	70.8	10.8	97	84.7	3.3	103	26.8	23.3	94
SLM	41	36	136	50	6.7	5.6	100	70	114	222	81	70.1	11.5	98	82.6	3.1	99	27.4	23.7	94
KERMAN			ACALA SJ-5					78 PERCENT											
M	31	36	135	49	6.8	5.8	90	70	160	384	63	71.0	11.3	99	83.1	3.4	99	26.1	24.6	100
SLM+	40	36	130	46	6.6	5.8	110	70	106	356	75	69.2	11.0	94	81.7	3.1	97	27.0	24.0	96
M	31	36	126	48	6.5	5.5	110	70	110	230	75	70.7	11.1	98	83.4	2.7	103	26.7	24.7	99
KINGSBURG			ACALA SJ-2					99 PERCENT											
SLM	41	36	129	122	6.0	5.0	90	60	150	440	74	68.8	11.4	95	83.0	3.5	98	26.1	24.5	100
SLM	41	36	128	46	6.3	5.8	110	60	136	374	71	69.4	10.4	93	82.5	3.9	96	27.0	24.0	96
SLM	41	35	122	44	6.4	5.0	80	70	118	320	64	68.7	10.4	91	81.7	3.3	96	27.9	23.0	90

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
WEST														
CALIFORNIA														
LE GRANDE			ACALA SJ-2				95 PERCENT							
SLM+	40	36	1.15	45	39	100	24	6.0	2.3	3.5	1	3	104	7.3
LM+	50	36	1.12	44	38	100	26	5.5	2.9	3.9	2	3	99	8.1
LM+	50	35	1.12	46	40	95	29	6.0	2.1	2.9	2	3	99	5.8
LOST HILLS			ACALA SJ-2				100 PERCENT							
M	31	36	1.15	45	36	96	27	6.5	1.1	2.0	0	3	108	6.1
M	31	36	1.12	45	36	98	27	6.1	1.4	2.6	0	3	106	6.3
M	31	36	1.11	45	37	95	25	6.3	1.3	2.7	0	3	105	6.6
MCFARLAND			ACALA SJ-2				100 PERCENT							
SLM	41	36	1.13	45	44	98	28	6.0	1.5	2.5	1	3	101	6.0
M	31	36	1.11	45	41	92	26	6.0	1.3	2.3	1	3	104	6.4
SLM	41	36	1.12	45	45	89	26	6.2	1.6	2.3	1	3	102	6.8
MENDOTA			ACALA SJ-2				99 PERCENT							
M	31	35	1.09	45	42	92	26	6.9	1.1	1.8	0	4	105	5.6
M	31	35	1.10	45	46	92	25	6.6	0.8	1.6	0	3	105	5.7
SLM+	40	35	1.12	44	38	88	26	6.0	1.0	2.0	1	3	103	6.4
RIPLEY			DELTAPINE 61				87 PERCENT							
M	31	35	1.07	46	52	91	24	6.0	1.4	2.0	0	3	105	5.8
M	31	35	1.11	45	51	86	22	6.7	0.5	1.7	1	3	104	5.3
M	31	35	1.10	43	51	88	23	7.1	1.0	1.9	1	3	103	6.4
M	31	34	1.08	45	51	88	23	7.3	1.2	2.6	0	3	106	7.6
SAN JOAQUIN			ACALA SJ-2				100 PERCENT							
SLM+	40	36	1.14	47	45	97	29	6.2	1.3	2.4	0	3	105	5.8
SLM	41	36	1.14	46	45	95	26	5.8	1.8	2.5	1	3	103	6.0
SLM	41	36	1.11	47	42	90	26	6.3	2.1	3.0	1	4	102	7.5
STRATFORD			ACALA SJ-2				99 PERCENT							
M	31	36	1.13	47	45	98	26	5.9	1.2	1.6	1	4	104	5.2
M	31	36	1.15	47	43	96	26	6.3	1.4	2.2	0	3	105	5.6
SLM+	40	36	1.15	45	42	94	26	6.1	1.6	2.8	1	3	103	6.3

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979.

State, Production Area, Chronological sampling, and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflectance	Yellowness	Composite	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
- Grade	Staple																		
Name Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
WEST																			
CALIFORNIA																			
LE GRANDE			ACALA SJ-2					95 PERCENT											
SLM+	40	36	134	48	6.5	5.2	90	60	134	384	69	70.7	10.8	97	82.4	4.1	95	25.9	24.6	101
LM+	50	36	128	48	6.5	5.6	100	60	144	360	70	66.9	11.2	90	82.8	3.3	99	27.2	23.5	94
LM+	50	35	139	53	6.5	5.6	100	60	116	744	84	69.5	10.2	92	83.9	2.8	103	26.9	23.9	96
LOST HILLS			ACALA SJ-2					100 PERCENT											
M	31	36	132	49	6.8	5.7	90	70	118	364	74	71.3	11.0	98	83.1	4.0	97	25.9	24.7	101
M	31	36	126	46	6.6	5.5	90	60	104	350	72	72.2	11.1	100	84.2	3.2	103	27.1	23.8	95
M	31	36	125	47	6.6	5.8	90	60	128	386	70	72.1	11.0	100	84.5	2.7	105	27.4	23.9	95
MCFARLAND			ACALA SJ-2					100 PERCENT											
SLM	41	36	132	46	6.4	5.5	110	70	152	358	67	68.4	10.9	92	83.3	3.4	100	26.5	24.4	99
M	31	36	125	44	6.7	5.2	110	70	92	220	67	70.2	11.4	98	83.2	3.1	101	26.5	24.2	98
SLM	41	36	128	46	6.8	5.8	100	70	134	430	70	68.7	11.0	93	82.1	3.1	98	26.6	24.2	98
MENDOTA			ACALA SJ-2					99 PERCENT											
M	31	35	124	46	6.9	5.8	90	60	98	210	72	71.3	11.1	99	83.5	3.3	100	26.3	24.1	98
M	31	35	125	46	6.8	5.7	100	70	94	282	68	71.5	10.5	97	81.9	3.1	98	26.8	23.9	96
SLM+	40	35	124	45	6.4	5.5	80	60	108	282	70	71.6	10.6	98	82.9	3.4	99	27.4	23.8	94
RIPLEY			DELTAPINE 61					87 PERCENT											
M	31	35	104	34	6.0	4.5	120	70	12	300	51	73.2	10.4	100	84.0	2.9	103	26.8	24.9	100
M	31	35	102	33	6.5	4.9	110	70	58	312	53	71.8	10.1	97	83.5	3.3	100	27.4	24.4	97
M	31	35	96	31	5.9	4.5	110	70	58	394	50	71.5	10.4	97	83.9	3.1	102	27.5	24.0	95
M	31	34	89	27	5.2	4.1	110	60	38	404	44	73.5	10.2	99	84.1	2.6	105	27.9	23.9	94
SAN JOAQUIN			ACALA SJ-2					100 PERCENT											
SLM+	40	36	131	53	6.5	5.4	90	70	146	484	79	71.4	10.7	98	81.7	3.7	95	25.3	24.8	103
SLM	41	36	133	48	6.7	5.7	100	70	146	274	72	69.9	11.0	96	82.3	2.9	99	26.2	24.5	100
SLM	41	36	128	47	6.6	5.5	90	60	106	244	77	70.0	11.3	97	81.5	3.6	95	27.1	24.0	96
STRATFORD			ACALA SJ-2					99 PERCENT											
M	31	36	137	47	6.7	5.3	90	60	124	258	69	70.5	11.3	98	83.0	3.5	98	26.0	24.8	101
M	31	36	131	48	6.7	5.3	90	60	124	366	77	70.7	11.1	98	82.9	3.6	98	26.2	23.7	96
SLM+	40	36	139	52	6.8	6.4	90	70	170	344	78	69.4	11.0	95	81.9	3.1	98	26.3	24.1	98

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
WEST														
CALIFORNIA														
STRATHMORE			ACALA SJ-5				100 PERCENT							
M	31	36	1.16	44	40	101	27	6.3	1.2	1.8	0	3	104	5.7
SLM+	40	36	1.11	45	41	100	27	6.4	1.3	2.1	1	3	103	6.5
SLM	41	36	1.10	45	41	99	26	6.4	1.6	2.5	1	3	101	5.8
VISALIA			ACALA SJ-4				100 PERCENT 1/							
M	31	35	1.12	47	44	101	27	5.5	1.2	1.7	1	4	104	5.1
M	31	36	1.13	47	40	92	27	6.0	0.7	1.6	1	4	104	6.5 2/
M	31	35	1.12	45	42	99	29	6.8	0.9	1.4	1	4	102	5.0
VISALIA			ACALA SJ-5				85 PERCENT							
M	31	35	1.13	47	43	97	26	5.9	0.7	1.3	1	4	103	4.9
M	31	36	1.13	45	42	96	27	5.9	0.6	1.2	1	3	103	4.9
M	31	36	1.11	45	43	98	27	6.4	0.9	1.7	1	4	102	5.1
WESTMORLAND			DELTAPINE 61				100 PERCENT							
M	31	35	1.06	43	46	86	24	6.7	1.0	1.9	0	4	104	6.7
M	31	34	1.07	44	51	89	24	6.9	1.3	2.0	0	3	105	7.0
M	31	34	1.06	44	46	87	25	7.6	1.1	2.7	0	3	104	6.3
M	31	34	1.07	43	46	87	23	7.0	1.0	2.0	0	3	107	6.7
M	31	34	1.07	45	46	87	24	6.2	1.2	2.0	0	3	105	6.2

1/ 100 percent selected for tests, less than 100 percent in the area.
2/ Cotton stuck to processing rolls.

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1979.

State, Production Area, Chronological sampling, and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
Grade	Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Blue-ness	Com-posite
Name Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
WEST																			
CALIFORNIA																			
STRATHMORE		ACALA SJ-5						100 PERCENT											
M	31 36	142	52	6.4	5.2	80	60	154	394	79	70.2	10.8	96	82.7	4.3	95	26.4	24.4	99
SLM+	40 36	132	47	6.7	5.7	100	60	132	330	71	70.8	10.6	96	83.6	3.3	101	27.3	23.3	93
SLM	41 36	130	48	6.8	5.9	100	70	156	490	71	69.5	10.6	94	84.7	3.3	103	26.9	23.3	93
VISALIA		ACALA SJ-4						100 PERCENT 1/											
M	31 35	146	53	6.5	5.3	110	70	130	246	74	69.3	11.3	96	83.1	3.7	98	26.2	24.3	99
M	31 36	134	52	6.5	5.6	80	60	114	250	81	68.5	11.5	95	82.5	3.0	99	26.3	24.2	98
M	31 35	140	51	6.4	5.5	80	60	112	206	79	68.6	11.6	95	82.0	3.8	95	26.9	23.7	95
VISALIA		ACALA SJ-5						85 PERCENT											
M	31 35	133	47	6.3	5.0	110	70	112	360	68	70.0	11.0	96	82.8	3.5	98	26.8	24.5	98
M	31 36	130	50	6.4	5.4	70	60	130	500	73	69.7	10.8	95	83.7	3.4	101	27.1	23.4	93
M	31 36	132	49	6.4	5.3	80	60	156	528	60	68.6	25.7	110	83.4	2.8	102	27.3	23.7	94
WESTMORLAND		DELTAPINE 61						100 PERCENT											
M	31 35	98	30	6.2	4.4	90	60	66	286	43	72.9	10.4	99	84.1	3.2	102	27.2	24.1	96
M	31 34	100	31	6.1	4.5	90	60	88	542	50	72.1	10.1	97	82.8	3.4	98	27.0	24.5	98
M	31 34	91	30	5.3	4.7	80	60	52	650	43	73.7	9.7	98	82.7	3.0	100	27.6	24.1	95
M	31 34	91	29	5.2	4.5	90	60	78	412	45	72.1	9.6	96	82.4	2.9	99	28.2	23.8	93
M	31 34	99	32	5.4	4.2	80	60	68	276	50	72.4	10.3	98	83.2	3.3	100	28.8	23.2	89

1/ 100 percent selected for tests, less than 100 percent in the area.

Table 7.--Cotton American upland long staple: Quality characteristics by production areas, crop of 1979.

State, Production Area, Chronological sampling and Classification		Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
		2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Grade	Staple												
Name Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH EAST													
ALABAMA													
MONTGOMERY		COKER 310				100 PERCENT							
LM 51	36	1.13	44	44	90	25	6.6	2.2	2.9	2	3	97	8.2
LM 51	35	1.14	45	40	88	25	6.2	2.7	3.6	2	3	98	8.2
LM 51	35	1.13	44	40	82	24	7.3	2.7	3.3	3	3	95	8.3
PIEDMONT		COKER 310				100 PERCENT							
SLM 41	36	1.12	45	45	80	23	7.2	1.9	2.8	3	4	93	7.9
SLM 41	36	1.13	44	42	84	24	7.5	2.3	3.1	2	3	99	7.4
GEORGIA													
MADISON		COKER 310				100 PERCENT							
SLM LT SP 42	35	1.10	43	49	88	24	7.0	2.7	4.0	3	4	92	8.9
SLM LT SP 42	36	1.14	43	47	84	25	7.0	2.6	3.8	4	4	87	8.4
LM 51	35	1.13	44	46	83	24	6.7	3.6	5.1	4	4	87	9.4
NORTH CAROLINA													
DUNN		COKER 310				95 PERCENT							
SLM 41	36	1.13	44	43	87	23	5.9	1.6	2.1	3	3	95	7.0
SLM 41	35	1.18	45	43	84	25	6.8	1.8	2.5	2	3	96	7.3
SLM 41	35	1.12	44	45	85	23	6.8	1.3	2.2	3	3	95	6.9
SOUTH CAROLINA													
MINTURN		COKER 310				90 PERCENT							
SLM 41	37	1.13	42	41	87	23	5.5	2.8	3.6	2	3	96	8.8
SLM 41	36	1.11	42	38	89	23	6.0	2.4	3.7	3	4	94	8.7
LM 51	36	1.11	44	39	80	23	7.4	4.0	5.3	3	3	91	10.1
SOUTH CENTRAL													
MISSISSIPPI													
TUNICA		COKER 310				100 PERCENT							
LM 51	38	1.20	46	39	90	25	5.8	3.8	4.8	2	3	99	9.1
LM+ 50	37	1.15	44	43	86	24	6.3	2.6	3.7	2	3	96	8.1
LM 51	37	1.18	44	36	87	24	6.5	3.2	4.6	2	2	98	9.0
WEST													
ARIZONA													
WILLCOX		ACALA 1517-EL				100 PERCENT 1/							
M 31	37	1.13	45	39	100	27	7.0	1.1	2.0	0	3	105	6.3
M 31	37	1.11	45	36	91	25	5.9	1.4	2.6	1	4	104	7.2
M 31	36	1.13	44	41	93	27	6.9	1.1	1.9	0	4	105	6.4

1/ 100 percent selected for tests, less than 100 percent in the area.

Table 7a.--Cotton, American upland long staple: Quality characteristics by production areas, crop of 1979

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
	Grade	Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflectance	Yellowness	Composite	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH EAST																				
ALABAMA																				
MONTGOMERY				COKER 310						100 PERCENT										
LM		51 36	120	44	6.7	5.9	130	90	22	144	72	66.7	10.8	88	83.2	3.2	100	27.0	23.9	96
LM		51 35	116	40	6.8	5.0	110	70	40	148	65	68.0	10.4	90	84.0	3.0	103	27.4	24.2	96
LM		51 35	117	41	6.6	5.5	110	70	26	158	71	68.3	10.2	90	84.0	3.1	102	27.5	23.7	94
PIEDMONT				COKER 310						100 PERCENT										
SLM		41 36	106	36	6.0	4.9	120	90	26	136	63	65.6	11.1	87	83.5	4.0	98	26.8	24.4	98
SLM		41 36	114	43	6.7	5.8	110	100	18	96	76	67.6	10.1	88	84.3	3.8	100	25.9	24.7	101
GEORGIA																				
MADISON				COKER 310						100 PERCENT										
SLM LT SP		42 35	102	35	5.5	4.6	110	110	18	260	60	64.0	11.6	85	81.5	3.7	94	26.5	24.4	99
SLM LT SP		42 36	110	36	6.5	5.0	130	90	20	94	65	62.6	11.0	81	82.5	3.8	96	26.8	24.0	96
LM		51 35	100	33	5.8	4.9	110	80	18	178	56	66.0	11.1	88	83.1	3.4	99	28.0	23.7	93
NORTH CAROLINA																				
DUNN				COKER 310						95 PERCENT										
SLM		41 36	110	34	6.6	4.7	120	100	24	80	60	65.3	10.9	86	83.7	3.6	100	27.2	23.9	95
SLM		41 35	111	39	6.3	5.7	120	90	16	120	64	65.8	10.8	87	83.3	3.7	98	26.9	23.9	96
SLM		41 35	104	37	6.4	5.7	120	80	12	72	64	66.4	10.7	87	83.8	3.3	101	27.2	23.4	93
SOUTH CAROLINA																				
MINTURN				COKER 310						90 PERCENT										
SLM		41 37	112	42	6.3	4.8	110	70	30	252	64	68.4	11.0	93	84.1	3.5	101	26.8	24.0	96
SLM		41 36	103	32	5.7	4.4	100	60	34	248	54	64.6	10.9	85	84.9	3.4	103	28.3	23.2	90
LM		51 36	100	35	6.1	4.7	100	60	36	342	64	65.7	10.5	86	84.2	3.2	103	27.4	23.5	93
SOUTH CENTRAL																				
MISSISSIPPI																				
TUNICA				COKER 310						100 PERCENT										
LM		51 38	134	47	6.8	5.7	120	70	42	164	79	67.6	10.7	90	83.6	3.9	98	26.3	24.5	99
LM+		50 37	123	43	6.7	5.2	130	90	20	164	76	68.5	10.4	91	84.1	3.2	102	27.6	23.5	93
LM		51 37	125	47	6.9	6.2	110	90	24	144	82	70.1	10.0	93	82.2	3.5	97	26.7	23.9	96
WEST																				
ARIZONA																				
WILLCOX				ACALA 1517-EL						100 PERCENT 1/										
M		31 37	136	52	6.5	5.7	100	90	26	102	83	71.2	11.2	99	83.6	3.3	101	25.4	24.4	101
M		31 37	129	47	6.6	5.2	100	70	38	250	73	69.6	11.7	98	82.9	3.3	99	25.9	24.5	100
M		31 36	132	49	6.5	5.4	120	80	24	162	77	71.2	11.4	99	82.9	3.1	100	26.5	24.4	99

1/ 100 percent selected for tests, less than 100 percent in the area.

Table 7.--Cotton American upland long staple: Quality characteristics by production areas, crop of 1979.

State, Production Area, Chronological sampling and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
WEST														
NEW MEXICO														
MESSILLA PARK			ACALA 1517-75				92 PERCENT							
M	31	37	1.16	44	38	94	28	6.8	1.2	2.0	0	3	105	7.6
M	31	36	1.13	45	35	88	26	7.0	1.5	2.6	0	3	106	7.9
SLM	41	36	1.14	44	31	94	27	6.4	2.2	3.5	1	4	102	8.3

Table 7a.--Cotton, American upland long staple: Quality characteristics by production areas, crop of 1979

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
Grade		Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflectance	Yellowness	Composite	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
WEST																				
NEW MEXICO																				
MESSILLA PARK			ACALA 1517-75						92 PERCENT											
M		31 37	145	53	7.1	5.4	120	90	36	202	99	70.4	11.0	97	84.7	3.2	104	26.0	24.2	99
M		31 36	125	46	6.5	5.4	110	70	14	254	77	70.8	11.1	98	84.5	2.7	105	25.7	24.4	100
SLM		41 36	134	52	6.4	5.6	90	60	50	266	88	69.1	11.3	95	83.3	3.2	100	26.1	23.8	97

Table 7b.--Cotton, American upland long staple: Combed yarn quality characteristics by production areas, crop of 1979

State, Production Area, Chronological Sampling and Classification			Comber waste	Yarn skein strength			Yarn elongation		Yarn appearance			Yarn neps	
Grade		Staple		22s or 27 tex	50s or 12 tex	Average Break Factor	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Average	22s or 27 tex	50s or 12 tex
Name	Code	32d in.	Pct.	Lbs.	Lbs.	No.	Pct.	Pct.	Index	Index	Index	No.	No.
SOUTH EAST													
ALABAMA													
MONTGOMERY			COKER 310				100 PERCENT						
LM	51	36	17.3	135	50	2735	6.8	5.6	130	130	130	22	104
LM	51	35	18.2	136	50	2746	6.7	5.9	130	120	125	20	146
LM	51	35	19.3	139	50	2779	7.4	5.8	130	110	120	14	150
PIEDMONT			COKER 310				100 PERCENT						
SLM	41	36	18.3	125	45	2500	6.5	5.3	130	120	125	4	44
SLM	41	36	16.3	130	49	2655	7.0	6.3	130	130	130	20	92
GEORGIA													
MADISON			COKER 310				100 PERCENT						
SLM LT SP	42	35	18.4	123	45	2478	6.2	5.8	130	130	130	10	92
SLM LT SP	42	36	18.2	127	46	2547	6.6	5.4	130	120	125	12	86
LM	51	35	19.5	129	45	2544	7.0	5.4	130	120	125	32	160
NORTH CAROLINA													
DUNN			COKER 310				95 PERCENT						
SLM	41	36	18.7	130	46	2580	6.6	5.5	130	110	120	6	32
SLM	41	35	17.6	132	46	2602	6.6	5.5	130	110	120	6	18
SLM	41	35	18.1	124	44	2464	7.0	5.5	130	120	125	4	76
SOUTH CAROLINA													
MINTURN			COKER 310				90 PERCENT						
SLM	41	37	18.7	132	48	2652	6.5	5.6	130	110	120	32	174
SLM	41	36	20.0	129	45	2544	6.5	5.4	130	100	115	0	60
LM	51	36	19.5	124	44	2464	6.8	5.7	120	110	115	30	236
SOUTH CENTRAL													
MISSISSIPPI													
TUNICA			COKER 310				100 PERCENT						
LM	51	38	15.8	152	56	3072	7.2	6.0	130	110	120	4	44
LM+	50	37	17.2	138	51	2793	7.2	5.8	130	120	125	14	96
LM	51	37	16.6	149	54	2989	7.4	6.0	130	110	120	24	168
WEST													
ARIZONA													
WILLCOX			ACALA 1517-EL				100 PERCENT 1/						
M	31	37	16.3	157	60	3227	6.9	5.8	130	120	125	18	90
M	31	37	16.1	150	56	3050	6.7	5.8	120	110	115	24	130
M	31	36	16.9	153	56	3083	6.8	5.6	130	110	120	28	120

1/ 100 percent selected for tests, less than 100 percent in the area.

Table 7b.--Cotton, American upland long staple: Combed yarn quality characteristics by production areas, crop of 1979

State, Production Area, Chronological Sampling and Classification			Comber waste	Yarn skein strength			Yarn elongation		Yarn appearance			Yarn neps	
Grade		Staple		22s or 27 tex	50s or 12 tex	Average Break Factor	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Average	22s or 27 tex	50s or 12 tex
Name	Code	32d in.	Pct.	Lbs.	Lbs.	No.	Pct.	Pct.	Index	Index	Index	No.	No.
WEST													
NEW MEXICO													
MESSILLA PARK			ACALA 1517-75				92 PERCENT						
M	31	37	16.9	157	60	3227	7.2	6.4	130	110	120	18	146
M	31	36	18.1	148	55	3003	6.7	5.8	110	110	110	38	234
SLM	41	36	17.5	158	59	3213	7.5	6.0	120	90	105	48	288

Table 8.--Cotton: American Pima extra long staple: Quality characteristics by production areas, crop of 1979.

State, Production Area, Chronological Sampling and Classification		Array length		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & card waste	Comber waste
Grade	Staple	Upper Quartile	Coeff. of Var'n		Zero gage	1/8" gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Com-posite		
Name	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.	Pct.
WEST														
Arizona														
Casa Grande			Pima S-5				100 Percent							
3	46	1.49	35	41	106	35.0	7.5	2.3	3.3	3	6	94	7.7	15.3
3	46	1.46	35	41	108	36.0	7.4	1.2	4.5	3	6	97	7.4	15.4
4	46	1.53	31	39	104	34.0	8.2	2.0	2.8	3	6	94	6.9	14.8
Safford			Pima S-5				100 Percent							
3	46	1.51	31	42	100	33.0	8.2	1.2	3.3	4	7	88	7.0	14.1
3	46	1.49	34	42	102	37.0	8.6	1.4	2.4	4	7	88	7.5	15.3
3	46	1.43	32	40	102	35.0	8.0	1.4	3.8	4	7	89	7.7	14.2
Wenden			Pima S-5				100 Percent							
3	46	1.51	36	39	104	36.0	7.5	1.7	3.2	3	6	94	7.1	14.7
3	46	1.42	35	38	104	32.0	7.9	2.1	3.2	3	5	96	7.6	16.7
3	46	1.50	34	40	105	33.0	8.0	1.4	2.1	3	6	96	6.4	15.2
New Mexico														
Anthony			Pima S-5				100 Percent							
3	46	1.44	35	38	105	33.0	7.9	2.7	4.3	4	7	87	7.7	15.4
4	44	1.39	37	37	101	38.0	8.2	2.0	3.4	5	6	85	9.2 1/	16.7
4	44	1.40	36	37	106	33.0	6.6	1.6	2.6	4	6	86	8.4	15.3
Mesquite			Pima S-5				99 Percent							
3	46	1.44	35	37	99	33.0	7.9	1.2	2.0	4	6	90	6.9	13.1
3	46	1.41	40	36	105	34.0	8.1	1.4	2.5	4	7	89	7.7 1/	16.3
3	46	1.36	37	35	102	35.0	8.1	1.0	2.1	4	6	91	7.9	15.9
West Texas														
Tornillo			Pima S-5				99 Percent							
3	46	1.51	33	40	103	35.0	7.8	1.4	2.3	4	6	90	6.9	12.9
3	46	1.46	35	38	103	33.0	7.9	1.5	2.3	4	7	90	7.3	15.1
3	46	1.43	36	38	105	31.0	7.9	1.3	5.5	4	6	91	7.6	15.9

1/ Cotton stuck to processing rolls.

Table 8.--Cotton: American Pima extra long staple: Quality characteristics by production area, crop of 1979.

State, Production Area, Chronological Sampling and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn Neps		Color - 50s gray yarn			Color-50s bleached yarn			Color - 50s dyed yarn		
Grade	Staple	50s or 12 tex	80s or 7.4 tex	50s or 12 tex	80s or 7.4 tex	50s or 12 tex	80s or 7.4 tex	50s or 12 tex	80s or 7.4 tex	Reflectance	Yellowness	Composite	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
Name	32d in.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
WEST																		
Arizona																		
Casa Grande					Pima S-5						100 Percent							
3	46	68	36	5.7	4.7	120	120	44	150	64.1	13.2	91	82.2	3.4	97	26.3	25.0	101
3	46	68	36	5.7	4.7	130	100	96	254	66.9	12.8	96	82.9	3.4	99	26.2	25.1	102
4	46	71	38	6.0	5.2	130	120	48	189	65.8	12.7	93	81.9	3.4	96	26.3	24.8	101
Safford					Pima S-5						100 Percent							
3	46	65	34	5.9	4.9	130	130	36	106	61.4	13.4	85	81.9	3.4	96	25.7	25.5	105
3	46	63	33	5.7	4.7	130	110	28	154	63.3	13.6	90	83.5	3.7	99	26.2	24.7	100
3	46	64	34	5.8	5.1	130	110	32	164	62.7	13.9	90	82.2	3.7	96	25.1	25.3	105
Wenden					Pima S-5						100 Percent							
3	46	67	36	5.8	5.1	120	120	50	132	63.8	13.1	89	80.0	3.3	92	26.0	25.2	103
3	46	65	34	5.5	5.0	130	110	56	238	66.9	12.7	96	82.8	3.5	98	26.7	24.7	99
3	46	67	34	5.6	4.4	130	120	80	194	66.3	12.6	94	81.8	3.7	95	26.3	24.8	101
New Mexico																		
Anthony					Pima S-5						100 Percent							
3	46	64	34	6.0	5.3	130	130	46	168	60.8	13.3	84	80.4	3.7	92	25.5	25.1	103
4	44	63	34	5.8	5.2	130	110	72	190	62.1	13.4	86	82.6	3.6	97	26.4	24.6	100
4	44	62	33	5.6	4.7	130	120	60	190	60.8	13.5	84	82.1	3.8	95	25.0	25.1	104
Mesquite					Pima S-5						99 Percent							
3	46	65	35	5.9	5.2	130	120	38	148	60.7	13.4	84	81.9	3.7	95	25.6	25.2	104
3	46	64	34	5.9	5.2	120	110	68	206	62.6	13.5	88	82.7	4.0	96	25.5	25.1	103
3	46	59	32	5.5	4.7	120	110	88	266	63.0	13.4	88	81.7	3.6	95	25.9	24.8	101
West Texas																		
Tornillo					Pima S-5						99 Percent							
3	46	67	36	6.1	5.4	120	120	32	110	61.5	13.1	85	79.4	3.6	90	25.4	25.3	104
3	46	65	35	5.8	4.9	130	110	58	164	63.5	13.3	89	83.2	3.6	99	25.7	25.3	104
3	46	64	34	6.0	5.1	120	110	48	158	66.6	13.6	88	82.5	3.7	97	25.8	25.0	102

Table 9.--Cotton: Results of simple correlation analyses for the fiber and processing tests performed on 84 short staple samples collected at triweekly intervals from selected gin points, crop of 1979

Item	Grade	Staple	Fiber length		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & card waste	Spinning Potential
			2.5% span	50/2.5 unif.		Zero gage	1/8" gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Com-posite		
	Index	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.	No.
Sample Distribution:															
Mean	93.1	32.0	1.00	44.7	3.5	83.2	21.8	7.5	2.43	3.68	1.5	4.2	101.0	6.3	48.6
Standard deviation (±)	5.3	1.3	.04	1.3	.6	3.2	.9	.6	.9	1.1	.7	.6	2.7	1.2	5.6
Correlation Coef. for:															
Classification:															
Grade.....index		+.09	-.02	-.10	+.12	+.06	+.24	+.26	-.73	-.70	-.62	-.17	+.70	-.54	+.11
Staple.....32d inches	+.09		+.83	-.24	+.58	.00	+.04	-.28	-.19	-.30	-.17	-.52	+.13	-.29	+.75
Fiber length:															
2.5% span.....inches	-.02	+.83		-.22	+.44	-.04	+.04	-.30	-.14	-.23	-.05	-.41	+.03	-.18	+.74
50/2.5.....pct	-.10	-.24	-.22		+.05	+.15	-.06	-.01	+.11	+.11	+.34	+.25	-.27	+.15	-.29
Micronaire.....reading	+.12	+.58	+.44	+.05		+.06	-.37	-.28	-.19	-.31	+.07	-.48	-.15	-.27	+.18
Fiber strength:															
Zero gage.....Mpsi	+.06	.00	-.04	+.15	+.06		+.19	-.45	+.03	-.01	-.18	-.19	+.15	-.18	-.01
1/8" gage.....grams/tex	+.24	+.04	+.04	-.06	-.37	+.19		+.14	-.20	-.18	-.37	-.02	+.46	-.21	+.33
Elongation (1/8").....pct	+.26	-.28	-.30	-.01	-.28	-.45	+.14		-.12	-.12	-.10	+.28	+.16	+.09	-.13
Shirley Analyzer:															
Visible waste.....pct	-.73	-.19	-.14	+.11	-.19	+.03	-.20	-.12		+.92	+.50	+.06	-.52	+.56	-.15
Total waste.....pct	-.70	-.30	-.23	+.11	-.31	-.01	-.18	-.12	+.92		+.54	+.20	-.56	+.55	-.24
Color of raw stock:															
Grayness.....No.	-.62	-.17	-.05	+.34	+.07	-.18	-.37	-.10	+.50	+.54		+.43	-.89	+.41	-.26
Yellowness.....No.	-.17	-.52	-.41	+.25	-.48	-.19	-.02	+.28	+.06	+.20	+.43		-.36	+.19	-.37
Composite.....index	+.70	+.13	+.03	-.27	-.15	+.15	+.46	+.16	-.52	-.56	-.89	-.36		-.44	+.27
Picker & card waste.....pct	-.54	-.29	-.18	+.15	-.27	-.18	-.21	+.09	+.56	+.55	+.41	+.19	-.44		-.29
Spinning Potential.....No.	+.11	+.75	+.74	-.29	+.18	-.01	+.33	-.13	-.15	-.24	-.26	-.37	+.27	-.29	
Yarn skein strength:															
8s (74 tex).....pounds	+.05	+.50	+.50	-.09	-.05	+.08	+.42	-.10	-.07	-.14	-.22	-.25	+.28	-.18	+.68
22s (27 tex).....pounds	+.05	+.51	+.48	-.16	-.01	+.17	+.42	-.20	-.07	-.15	-.27	-.30	+.31	-.21	+.70
Yarn elongation:															
8s (74 tex).....pct	+.10	+.16	+.12	-.15	-.07	-.25	+.25	+.27	-.03	-.01	-.07	-.09	+.19	-.03	+.31
22s (27 tex).....pct	-.04	+.03	+.03	+.01	-.21	-.22	+.15	+.23	+.06	+.09	+.04	+.09	+.09	+.12	+.22
Yarn appearance:															
8s (74 tex).....index	+.21	+.41	+.44	-.09	+.35	+.01	+.15	+.06	-.28	-.40	-.14	-.21	+.11	-.28	+.38
22s (27 tex).....index	+.13	+.24	+.22	-.01	+.40	+.15	+.15	+.09	-.06	-.28	-.11	-.21	+.13	-.18	+.23
Yarn neps:															
8s (74 tex).....No.	+.02	-.25	-.15	+.06	-.32	-.20	-.05	+.16	+.01	+.07	+.07	+.20	.00	+.05	-.31
22s (27 tex).....No.	+.06	-.16	-.17	+.05	-.09	-.18	-.25	+.21	+.13	+.24	+.13	+.18	-.15	+.16	-.26
Color - 22s gray yarn:															
Reflectance.....Rd	+.49	+.46	+.41	-.32	+.29	+.15	+.19	-.03	-.30	-.47	-.72	-.65	+.74	-.37	+.45
Yellowness.....+b	-.16	-.65	-.57	+.28	-.70	-.03	+.26	+.18	+.13	+.31	+.27	+.71	-.19	+.22	-.40
Composite.....index	+.52	+.23	+.19	-.22	+.01	+.17	+.38	+.07	-.29	-.42	-.76	-.45	+.83	-.36	+.34
Color - 22s bleached yarn:															
Reflectance.....Rd	+.28	+.07	+.02	-.21	+.02	-.05	-.01	-.01	-.24	-.19	-.31	-.14	+.30	-.19	+.11
Yellowness.....+b	-.41	-.46	-.33	+.26	-.51	-.10	-.02	+.14	+.39	+.46	+.51	+.54	-.42	+.46	-.29
Composite.....index	+.42	+.26	+.15	-.28	+.27	+.02	+.02	-.06	-.38	-.37	-.49	-.37	+.41	-.36	+.23
Color - 22s dyed yarn:															
Reflectance.....Rd	-.42	-.10	+.01	-.03	-.22	-.17	-.09	-.08	+.22	+.24	+.39	+.24	-.42	+.24	-.06
Blueness.....-b	+.37	+.39	+.24	-.05	+.67	+.11	-.15	-.11	-.25	-.32	-.29	-.47	+.24	-.33	+.14
Composite.....index	+.41	+.30	+.16	-.02	+.55	+.14	-.08	-.05	-.24	-.30	-.34	-.43	+.31	-.32	+.12

Table 9.--Continued

Item	Yarn strength		Yarn elongation		Yarn appearance		Yarn Neps		Color - 22s gray yarn			Color-22s bleached yarn			Color - 22s dyed yarn		
	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Reflectance	Yellowness	Composite	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd.	+b	Index	Rd	+b	Index	Rd	-b	Index
Sample Distribution:																	
Mean	307.6	101.0	8.2	7.2	118.2	111.4	9.5	41.0	68.1	12.0	95.4	83.6	3.7	98.8	26.6	23.9	96.7
Standard deviation (±)	14.1	5.8	.6	.4	7.3	9.7	7.3	17.9	2.0	.5	3.3	1.1	.5	3.6	.7	.7	4.0
Correlation Coef. for:																	
Classification:																	
Grade.....index	+.05	+.05	+.10	-.04	+.21	+.13	+.02	+.06	+.49	-.16	+.52	+.28	-.41	+.42	-.42	+.37	+.41
Staple.....32d inches	+.50	+.51	+.16	+.03	+.41	+.24	-.25	-.16	+.46	-.65	+.23	+.07	-.46	+.26	-.10	+.39	+.30
Fiber length:																	
2.5% span.....inches	+.50	+.48	+.12	+.03	+.44	+.22	-.15	-.17	+.41	-.57	+.19	+.02	-.33	+.15	+.01	+.24	+.16
50/2.5.....pct	-.09	-.16	-.15	+.01	-.09	-.01	+.06	+.05	-.32	+.28	-.22	-.21	+.26	-.28	-.03	-.05	-.02
Micronaire.....reading	-.05	-.01	-.07	-.21	+.35	+.40	-.32	-.09	+.29	-.70	+.01	+.02	-.51	+.27	-.22	+.67	+.55
Fiber strength:																	
Zero gage.....Mpsi	+.08	+.17	-.25	-.22	+.01	+.15	-.20	-.18	+.15	-.03	+.17	-.05	-.10	+.02	-.17	+.11	+.14
1/8" gage.....grams/tex	+.42	+.42	+.25	+.15	+.15	+.15	-.05	-.25	+.19	+.26	+.38	-.01	-.02	+.02	-.09	-.15	-.08
Elongation (1/8").....pct	-.10	-.20	+.27	+.23	+.06	+.09	+.16	+.21	-.03	+.18	+.07	-.01	+.14	-.06	-.08	-.11	-.05
Shirley Analyzer:																	
Visible waste.....pct	-.07	-.07	-.03	+.06	-.28	-.06	+.01	+.13	-.30	+.13	-.29	-.24	+.39	-.38	+.22	-.25	-.24
Total waste.....pct	-.14	-.15	-.01	+.09	-.40	-.28	+.07	+.24	-.47	+.31	-.42	-.19	+.46	-.37	+.24	-.32	-.30
Color of raw stock:																	
Grayness.....No.	-.22	-.27	-.07	+.04	-.14	-.11	+.07	+.13	-.72	+.27	-.76	-.31	+.51	-.49	+.39	-.29	-.34
Yellowness.....No.	-.25	-.30	-.09	+.09	-.21	-.21	+.20	+.18	-.65	+.71	-.45	-.14	+.54	-.37	+.24	-.47	-.43
Composite.....index	+.28	+.31	+.19	+.09	+.11	+.13	.00	-.15	+.74	-.19	+.83	+.30	-.42	+.41	-.42	+.24	+.31
Picker & card waste.....pct	-.18	-.21	-.03	+.12	-.28	-.18	+.05	+.16	-.37	+.22	-.36	-.19	+.46	-.36	+.24	-.33	-.32
Spinning Potential.....No.	+.68	+.70	+.31	+.22	+.38	+.23	-.31	-.26	+.45	-.40	+.34	+.11	-.29	+.23	-.06	+.14	+.12
Yarn skein strength:																	
8s (74 tex).....pounds		+.86	+.56	+.45	+.28	+.14	-.15	-.27	+.30	-.10	+.33	-.05	-.04	-.01	-.19	+.01	+.07
22s (27 tex).....pounds	+.86		+.38	+.37	+.29	+.14	-.21	-.32	+.37	-.18	+.36	-.12	-.07	-.05	-.19	+.03	+.09
Yarn elongation:																	
8s (74 tex).....pct	+.56	+.38		+.58	+.05	+.01	-.05	-.08	+.11	+.04	+.16	+.08	+.02	+.05	-.31	+.11	+.19
22s (27 tex).....pct	+.45	+.37	+.58		+.01	-.13	+.09	-.02	-.04	+.22	+.07	+.06	+.27	-.10	-.21	-.05	+.04
Yarn appearance:																	
8s (74 tex).....index	+.28	+.29	+.05	+.01		+.46	-.19	-.43	+.31	-.37	+.21	-.07	-.31	+.11	-.16	+.29	+.25
22s (27 tex).....index	+.14	+.14	+.01	-.13	+.46		-.30	-.37	+.35	-.34	+.30	-.25	-.27	-.01	-.26	+.36	+.35
Yarn neps:																	
8s (74 tex).....No.	-.15	-.21	-.05	+.09	-.19	-.30		+.56	-.18	+.20	-.10	+.04	+.23	-.11	+.19	-.27	-.27
22s (27 tex).....No.	-.27	-.32	-.08	-.02	-.43	-.37	+.56		-.28	+.07	-.32	+.14	+.04	+.07	+.11	-.02	-.04
Color - 22s gray yarn:																	
Reflectance.....Rd	+.30	+.37	+.11	-.04	+.31	+.35	-.18	-.28		-.65	+.90	+.23	-.56	+.42	-.34	+.41	+.40
Yellowness.....+b	-.10	-.18	+.04	+.22	-.37	-.34	+.20	+.07	-.65		-.29	-.12	+.61	-.40	+.10	-.52	-.41
Composite.....index	+.33	+.36	+.16	+.07	+.21	+.30	-.10	-.32	+.90	-.29		+.17	-.40	+.30	-.38	+.25	+.30
Color - 22s bleached yarn:																	
Reflectance.....Rd	-.05	-.12	+.08	+.06	-.07	-.25	+.04	+.14	+.23	-.12	+.17		-.43	+.85	-.08	+.24	+.22
Yellowness.....+b	-.04	-.07	+.02	+.27	-.31	-.27	+.23	+.04	-.56	+.61		-.43		-.81	+.26	-.62	-.53
Composite.....index	-.01	-.05	+.05	-.10	+.11	-.01	-.11	+.07	+.42	-.40	+.30	+.85	-.81		-.22	+.48	+.42
Color - 22s dyed yarn:																	
Reflectance.....Rd	-.19	-.19	-.31	-.21	-.16	-.26	+.19	+.11	-.34	+.10	-.38	-.08	+.26	-.22		-.71	-.87
Blueness.....-b	+.01	+.03	+.11	-.05	+.29	+.36	-.27	-.02	+.41	-.52	+.25	+.24	-.62	+.48	-.71		+.96
Composite.....index	+.07	+.09	+.19	+.04	+.25	+.35	-.27	-.04	+.40	-.41	+.30	+.22	-.53	+.42	-.87	+.96	

Table 10.--Cotton: Results of simple correlation analyses for the fiber and processing tests performed on 304 medium staple samples, collected at triweekly intervals from selected gin points, crop of 1979

Item	Grade	Staple	Fiber length		Micronaire	Fiber strength		Elongation 1/8"	Shirley Analyzer		Color of raw stock			Picker & card waste	Spinning Potential
			2.5% span	50/2.5 unif.		Zero gage	1/8" gage		Visible waste	Total waste	Grayness	Yellowness	Composite		
Sample Distribution:	Index	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.	No.
Mean	94.3	35.0	1.10	44.9	4.2	86.4	23.4	6.8	2.0	2.9	1.3	3.3	100.7	6.69	59.1
Standard deviation (±)	5.0	1.2	0.00	1.5	.5	5.5	1.8	.8	.9	1.1	1.0	.7	4.8	1.06	11.3
Correlation Coef. for:															
Classification:															
Grade.....index		+.04	+.07	+.03	+.24	+.40	+.23	-.09	-.79	-.79	-.75	+.04	+.73	-.63	+.06
Staple.....32d inches	+.04		+.84	+.15	+.39	+.29	+.42	-.05	-.11	-.18	-.12	-.59	+.07	-.42	+.62
Fiber length:															
2.5% span.....inches	+.07	+.84		+.19	+.35	+.28	+.43	+.02	-.08	-.14	-.13	-.51	+.09	-.38	+.69
50/2.5.....pct	+.03	+.15	+.19		+.27	+.18	+.28	-.05	+.07	-.04	-.02	.00	+.01	-.24	+.36
Micronaire.....reading	+.24	+.39	+.35	+.27		+.08	-.05	-.14	-.30	-.41	-.03	-.29	-.03	-.48	+.03
Fiber strength:															
Zero gage.....Mpsi	+.40	+.29	+.28	+.18	+.08		+.67	-.60	-.34	-.35	-.34	.00	+.34	-.28	+.41
1/8" gage.....grams/tex	+.23	+.42	+.43	+.28	-.05	+.67		-.15	-.19	-.20	-.29	-.11	+.29	-.24	+.63
Elongation (1/8").....pct	-.09	-.05	+.02	-.05	-.14	-.60	-.15		+.09	+.14	+.00	-.07	+.00	+.05	-.06
Shirley Analyzer:															
Visible waste.....pct	-.79	-.11	-.08	+.07	-.30	-.34	-.19	+.09		+.95	+.56	+.03	-.52	+.68	-.08
Total waste.....pct	-.79	-.18	-.14	-.04	-.41	-.35	-.20	+.14	+.95		+.53	+.07	-.50	+.78	-.15
Color of raw stock:															
Grayness.....No.	-.75	-.12	-.13	-.02	-.03	-.34	-.29	.00	+.56	+.53		+.15	-.90	+.49	-.22
Yellowness.....No.	+.04	-.59	-.51	.00	-.29	.00	-.11	-.07	+.03	+.07	+.15		-.05	+.29	-.34
Composite.....index	+.73	+.07	+.09	+.01	-.03	+.34	+.29	+.00	-.52	-.50	-.91	-.05		-.44	+.18
Picker & card waste.....pct	-.63	-.42	-.38	-.24	-.48	-.28	-.24	+.05	+.68	+.78	+.49	+.29	-.44		-.41
Spinning Potential.....No.	+.06	+.62	+.69	+.36	+.03	+.41	+.63	-.06	-.08	-.15	-.22	-.34	-.07	-.44	
Yarn skein strength:															
22s (27 tex).....pounds	+.22	+.59	+.64	+.37	-.04	+.62	+.77	-.15	-.18	-.24	-.34	-.24	+.33	-.42	+.85
50s (12 tex).....pounds	+.13	+.49	+.53	+.31	-.05	+.53	+.67	-.13	-.12	-.15	-.24	-.14	+.22	-.30	+.73
Yarn elongation:															
22s (27 tex).....pct	-.06	+.30	+.34	+.14	-.27	-.22	+.17	+.58	+.08	+.07	-.15	-.25	+.17	-.18	+.48
50s (12 tex).....pct	-.04	+.49	+.36	+.10	-.28	-.04	+.35	+.50	+.01	+.03	-.18	-.19	+.20	-.13	+.48
Yarn appearance:															
22s (27 tex).....index	+.22	+.23	+.14	+.30	+.46	+.07	-.06	-.04	-.28	-.36	-.12	-.16	+.13	-.47	+.13
50s (12 tex).....index	+.14	+.17	+.12	+.31	+.37	.00	-.04	+.03	-.17	-.24	-.07	-.08	+.08	-.35	+.09
Yarn neps:															
22 (27 tex).....No.	-.30	+.14	+.22	+.16	-.18	+.19	+.35	-.07	+.40	+.38	+.22	+.06	-.22	+.25	+.25
50s (12 tex).....No.	-.22	-.03	+.05	-.27	-.19	-.04	+.10	+.10	+.27	+.32	+.18	+.03	-.19	+.34	-.10
Color - 22s gray yarn:															
Reflectance.....Rd	+.69	+.14	+.14	-.03	+.18	+.26	+.16	-.05	-.54	-.53	-.86	-.23	+.80	-.46	+.11
Yellowness.....+b	+.03	-.27	-.24	+.05	-.28	+.13	+.10	-.06	+.04	+.06	+.05	+.48	+.02	+.14	-.09
Composite.....index	+.69	-.08	-.06	-.01	-.05	+.32	+.19	-.09	-.48	-.46	-.81	+.11	+.82	-.32	+.04
Color - 22s bleached yarn:															
Reflectance.....Rd	-.03	-.11	-.02	-.16	-.10	-.32	-.29	+.18	.00	-.01	-.04	-.03	+.01	-.07	-.08
Yellowness.....+b	-.18	-.29	-.25	+.11	-.25	-.02	-.05	-.02	+.18	+.19	+.24	+.35	-.18	+.25	-.13
Composite.....index	+.10	+.07	+.09	-.15	+.06	-.20	-.18	+.15	-.09	-.10	-.16	-.20	+.12	-.18	+.03
Color - 22s dyed yarn:															
Reflectance.....Rd	-.07	-.21	-.30	-.23	-.07	-.03	-.10	-.11	+.01	+.01	+.25	+.12	-.22	+.18	-.33
Blueness.....-b	+.19	+.24	+.23	+.15	+.47	.00	-.15	-.09	-.11	-.26	-.18	-.19	+.15	-.38	+.09
Composite.....index	+.19	+.30	+.34	+.22	+.44	+.01	-.08	-.04	-.10	-.23	-.27	-.22	+.23	-.41	+.22

Table 10.--Continued

Item	Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Color - 22s gray yarn			Color-22s bleached yarn			Color - 22s dyed yarn		
	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Reflectance	Yellowness	Composite	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd.	+b	Index	Rd	+b	Index	Rd	-b	Index
Sample Distribution:																	
Mean	110.2	37.9	6.6	5.2	96.7	65.5	102.7	347.8	69.4	10.9	94.3	83.5	3.3	100.4	26.7	24.4	98.3
Standard deviation (±)	13.5	7.9	.6	.6	14.7	7.3	44.8	134.0	2.4	1.0	4.6	.9	.4	2.9	.9	.9	4.1
Correlation Coef. for:																	
Classification:																	
Grade.....index	+.22	+.13	-.06	-.04	+.22	+.14	-.30	-.22	+.69	+.03	+.69	-.03	-.18	+.10	-.07	+.19	+.19
Staple.....32d inches	+.59	+.49	+.30	+.49	+.23	+.17	+.14	-.03	+.14	-.27	-.08	-.11	-.29	+.07	-.21	+.24	+.30
Fiber length:																	
2.5% span.....inches	+.64	+.53	+.34	+.36	+.14	+.12	+.22	+.05	+.14	-.24	-.06	-.02	-.25	+.09	-.30	+.23	+.34
50/2.5.....pct	+.37	+.31	+.14	+.10	+.30	+.31	+.16	-.27	-.03	+.05	-.01	-.16	+.11	-.15	-.23	+.15	+.22
Micronaire.....reading	-.04	-.05	-.17	-.28	+.46	+.37	-.18	-.19	+.18	-.28	-.05	-.10	-.25	+.06	-.07	+.47	+.44
Fiber strength:																	
Zero gage.....Mpsi	+.62	+.53	-.22	-.04	+.07	.00	+.19	-.04	+.26	+.13	+.32	-.32	-.02	-.20	-.03	.00	+.01
1/8" gage.....grams/tex	+.77	+.67	+.17	+.35	-.06	-.04	+.35	+.10	+.16	+.10	+.19	-.29	-.05	-.18	-.10	-.15	-.08
Elongation (1/8").....pct	-.15	-.13	+.58	+.50	-.04	+.02	-.07	+.10	-.05	-.06	-.09	+.18	-.02	+.15	-.11	-.09	-.04
Shirley Analyzer:																	
Visible waste.....pct	-.18	-.12	+.08	+.01	-.28	-.17	+.40	+.27	-.54	+.04	-.48	.00	+.18	-.09	+.01	-.11	-.10
Total waste.....pct	-.24	-.15	+.07	+.03	-.36	-.24	+.38	+.32	-.53	+.06	-.46	-.01	+.19	-.10	+.01	-.26	-.23
Color of raw stock:																	
Grayness.....No.	-.34	-.24	-.15	-.18	-.12	-.07	+.22	+.18	-.86	+.05	-.81	-.04	+.24	-.16	+.25	-.18	-.27
Yellowness.....No.	-.24	-.14	-.25	-.19	-.16	-.08	+.06	+.03	-.23	+.48	+.11	-.03	+.35	-.20	+.12	-.19	-.22
Composite.....index	+.33	+.22	+.17	+.20	+.13	+.08	-.22	-.19	+.80	+.02	+.82	+.01	-.18	+.12	-.22	+.15	+.23
Picker & card waste.....pct	-.42	-.30	-.18	-.13	-.47	-.35	+.25	+.34	-.46	+.14	-.32	-.07	+.25	-.18	+.18	-.38	-.41
Spinning Potential.....No.	+.85	+.73	+.48	+.48	+.13	+.09	+.25	-.10	+.11	-.09	+.04	-.08	-.13	+.03	-.33	+.09	+.22
Yarn skein strength:																	
22s (27 tex).....pounds		+.81	+.45	+.54	+.10	+.10	+.29	-.07	+.19	+.06	+.20	-.22	-.01	-.13	-.27	+.05	+.17
50s (12 tex).....pounds	+.81		+.30	+.45	.00	+.02	+.30	.00	+.09	+.07	+.12	-.22	.00	-.15	-.22	.00	+.10
Yarn elongation:																	
22s (27 tex).....pct	+.45	+.30		+.77	+.08	+.09	+.03	-.08	+.03	-.04	+.01	+.15	+.04	+.09	-.29	+.02	+.14
50s (12 tex).....pct	+.54	+.45	+.77		.00	+.03	+.16	+.01	+.03	+.01	+.03	-.05	+.05	-.05	-.25	-.07	+.04
Yarn appearance:																	
22s (27 tex).....index	+.10	.00	+.08	.00		+.53	-.42	-.45	+.18	-.16	+.08	+.11	-.18	+.18	-.15	+.37	+.38
50s (12 tex).....index	+.10	+.02	+.09	+.03	+.53		-.25	-.39	+.06	-.12	-.01	-.01	-.03	+.03	-.10	+.35	+.34
Yarn neps:																	
22 (27 tex).....No.	+.29	+.30	+.03	+.16	-.42	-.25		+.47	-.32	+.14	-.24	-.19	+.08	-.16	-.03	-.19	-.15
50s (12 tex).....No.	-.07	.00	-.08	+.01	-.45	-.39	+.47		-.18	+.08	-.14	+.04	-.05	+.05	+.12	-.23	-.26
Color - 22s gray yarn:																	
Reflectance.....Rd	+.19	+.09	+.03	+.03	+.18	+.06	-.32	-.18		-.17	+.87	+.13	-.37	+.28	-.14	+.28	+.28
Yellowness.....+b	+.06	+.07	-.04	+.01	-.16	-.12	+.14	+.08	-.17		+.25	+.02	+.18	-.09	+.01	-.15	-.14
Composite.....index	+.20	+.12	+.01	+.03	+.08	-.01	-.24	-.14	+.87	+.25		+.13	-.22	+.22	-.16	+.17	+.22
Color - 22s bleached yarn:																	
Reflectance.....Rd	-.22	-.22	+.15	-.05	+.11	-.01	-.19	+.04	+.13	+.02	+.13		-.29	+.84	+.01	+.13	+.04
Yellowness.....+b	-.01	.00	+.04	+.05	-.18	-.03	+.08	-.05	-.37	+.18	-.22	-.29		-.73	-.01	-.13	-.11
Composite.....index	-.13	-.15	+.09	-.05	+.18	+.03	-.16	+.05	+.28	-.09	+.22	+.84	-.73		-.03	+.12	+.12
Color - 22s dyed yarn:																	
Reflectance.....Rd	-.27	-.22	-.29	-.25	-.15	-.10	-.03	+.12	-.14	+.01	-.16	+.01	-.01	-.03		-.07	-.50
Blueness.....-b	+.05	.00	+.02	-.07	+.37	+.35	-.19	-.23	+.28	-.15	+.17	+.13	-.13	+.12	-.07		+.90
Composite.....index	+.17	+.10	+.14	+.04	+.38	+.34	-.15	-.26	+.28	-.14	+.22	+.04	-.11	+.12	-.50	+.90	

Table 11.--Cotton: Results of simple correlation analyses for the fiber and processing tests performed on 23 long staple samples, collected at triweekly intervals from selected gin points, crop of 1979

Item	Grade	Staple	Fiber length		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & card waste	Spinning Potential
			2.5% span	50/2.5 unif.		Zero gage	1/8" gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Com-posite		
Sample Distribution:	Index	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.	No.
Mean	92.0	36.1	1.14	44.1	4.1	87.6	24.7	6.63	2.29	3.29	2.0	3.3	97.2	8.1	71.0
Standard deviation (±)	5.7	.85	.02	.95	.4	4.8	1.5	.55	.85	1.01	1.2	.6	5.5	.1	10.9
Correlation Coef. for:															
Classification:															
Grade.....index		+.22	-.20	+.04	-.29	+.51	+.46	-.01	-.85	-.78	-.67	+.23	+.66	-.73	+.34
Staple.....32d inches	+.22		+.42	+.16	-.42	+.45	+.24	-.44	+.03	+.04	-.44	-.25	+.44	.00	+.56
Fiber length:															
2.5% span.....inches	-.20	+.42		+.43	-.21	+.12	+.30	-.23	+.20	+.13	-.19	-.51	+.19	+.06	+.46
50/2.5.....pct	+.04	+.16	+.43		-.22	+.12	+.34	+.12	-.13	-.15	-.36	-.22	+.41	-.10	+.35
Micronaire.....reading	-.29	-.42	-.21	-.22		-.45	-.43	-.24	+.10	+.04	+.62	+.21	-.68	+.01	-.59
Fiber strength:															
Zero gage.....Mpsi	+.51	+.45	+.12	+.12	-.45		+.75	-.31	+.49	-.43	-.75	+.03	+.74	-.46	+.60
1/8" gage.....grams/tex	+.46	+.24	+.30	+.34	-.43	+.75		+.12	-.46	-.40	-.79	+.08	+.71	-.40	+.78
Elongation (1/8").....pct	-.01	-.44	-.23	+.12	+.24	-.31	+.12		-.08	-.08	+.05	+.03	-.11	-.08	+.09
Shirley Analyzer:															
Visible waste.....pct	-.85	+.03	+.20	-.13	+.10	+.49	-.46	-.08		+.97	+.58	+.13	-.61	+.92	-.30
Total waste.....pct	-.78	+.04	+.13	-.15	+.04	-.43	-.40	-.08	+.97		+.54	-.02	-.58	+.93	-.28
Color of raw stock:															
Grayness.....No.	-.67	+.44	-.19	-.36	+.62	-.75	-.79	+.05	+.58	+.54		+.18	-.97	+.52	-.77
Yellowness.....No.	+.23	-.25	-.51	-.22	+.21	+.03	+.08	+.03	-.13	-.02	+.18		-.21	-.02	-.32
Composite.....index	+.66	-.44	+.19	+.41	-.68	+.74	+.71	-.11	-.61	-.58	-.97	-.21		-.57	+.75
Picker & card waste.....pct	-.73	.00	+.06	-.10	+.01	-.46	-.40	-.08	+.92	+.93	+.52	-.02	-.57		-.27
Spinning Potential.....No.	+.34	+.56	+.46	+.35	-.59	+.60	+.78	+.09	+.30	-.28	-.77	-.32	+.75	-.27	
Yarn skein strength:															
22s (27 tex).....pounds	+.41	+.63	+.48	+.42	-.61	+.76	+.83	-.16	-.39	-.37	-.84	-.21	+.84	-.39	+.92
50s (12 tex).....pounds	+.42	+.57	+.40	+.38	-.64	+.73	+.81	-.06	-.37	-.35	-.88	-.25	+.86	-.37	+.94
Yarn elongation:															
22s (27 tex).....pct	+.07	+.47	+.58	+.42	-.39	+.30	+.44	-.13	-.21	-.30	-.49	-.61	+.54	-.33	+.71
50s (12 tex).....pct	+.01	+.22	+.58	+.48	-.30	+.28	+.42	+.19	-.19	-.22	-.43	-.54	+.48	-.32	+.65
Yarn appearance:															
22s (27 tex).....index	-.16	+.02	+.33	+.06	+.62	-.25	-.07	+.04	-.09	-.19	+.20	-.16	-.24	-.17	-.06
50s (12 tex).....index	+.05	-.09	+.06	-.01	+.63	-.03	-.02	+.29	-.25	-.28	+.10	-.11	-.13	-.33	+.01
Yarn neps:															
22 (27 tex).....No.	-.05	+.40	+.13	+.12	-.63	+.36	+.27	-.43	+.21	+.22	-.23	+.14	+.27	+.25	+.33
50s (12 tex).....No.	+.02	+.12	-.32	-.24	-.43	+.04	+.03	-.12	+.32	+.41	-.15	+.25	+.08	+.56	+.01
Color - 22s gray yarn:															
Reflectance.....Rd	+.45	+.44	+.25	+.37	-.67	+.59	+.62	-.06	-.37	-.35	-.87	-.35	+.87	-.39	+.76
Yellowness.....+b	+.55	+.02	-.39	-.05	+.04	+.44	+.35	-.16	-.43	-.31	-.26	+.73	+.20	-.25	-.04
Composite.....index	+.59	+.45	+.13	+.34	-.66	+.68	+.69	-.13	-.46	-.41	-.91	-.13	+.89	-.42	+.71
Color - 22s bleached yarn:															
Reflectance.....Rd	+.23	+.13	.00	-.01	-.35	-.03	-.03	-.07	-.11	-.18	-.20	-.25	+.23	-.06	+.11
Yellowness.....+b	-.17	+.14	+.21	-.04	+.48	-.31	+.38	-.03	+.24	+.19	+.49	+.16	-.46	+.11	-.28
Composite.....index	+.26	+.06	-.12	+.03	-.49	+.14	+.17	-.02	-.20	-.23	-.40	-.28	+.40	-.10	+.23
Color - 22s dyed yarn:															
Reflectance.....Rd	-.57	-.43	-.14	-.40	+.36	-.56	-.63	-.16	+.46	+.42	+.72	+.08	-.71	+.44	-.68
Blueness.....-b	+.35	+.29	+.12	+.47	-.03	+.31	+.42	+.13	-.27	-.28	-.48	+.07	+.49	-.34	+.36
Composite.....index	+.48	+.34	+.13	+.47	-.18	+.47	+.59	+.19	-.40	-.39	-.64	+.01	+.64	-.43	+.56

Table 11.-- Continued

Item	Yarn strength		Yarn elongation		Yarn appearance		Yarn neps		Color - 22s gray yarn			Color-22s bleached yarn			Color - 22s dyed yarn		
	Coarse	Fine	Coarse	Fine	Coarse	Fine	Coarse	Fine	Reflectance	Yellowness	Composite	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
Sample Distribution:	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd.	+b	Index	Rd	+b	Index	Rd	-b	Index
Mean	117.7	41.9	6.4	5.3	113.0	81.3	26.7	175.5	67.5	10.9	90.5	83.6	3.4	100.2	26.8	24.0	96.5
Standard deviation (±)	13.0	6.5	.4	.5	10.6	13.9	9.9	71.6	2.4	.4	5.1	.8	.3	2.6	.7	.4	3.0
Correlation Coef. for:																	
Classification:																	
Grade.....index	+.41	+.42	+.07	+.01	-.16	+.05	-.05	+.02	+.45	+.55	+.59	+.23	-.17	+.26	-.57	+.35	+.48
Staple.....32d inches	+.63	+.57	+.47	+.22	+.02	-.09	+.40	+.12	+.44	+.02	+.45	+.13	+.14	+.06	-.43	+.29	+.34
Fiber length:																	
2.5% span.....inches	+.48	+.40	+.58	+.58	+.33	+.06	+.13	-.32	+.25	-.39	+.13	.00	+.21	-.12	-.14	+.12	+.13
50/2.5.....pct	+.42	+.38	+.42	+.48	+.06	-.01	+.12	-.24	+.37	-.05	+.34	-.01	-.04	-.03	-.40	+.47	+.47
Micronaire.....reading	-.61	-.64	-.39	-.30	+.62	+.63	-.63	-.43	-.67	+.04	-.66	-.35	+.48	-.49	+.36	-.03	-.18
Fiber strength:																	
Zero gage.....Mpsi	+.76	+.73	+.30	+.28	-.25	-.03	+.36	+.04	+.59	+.44	+.68	-.03	-.31	+.14	-.56	+.31	+.47
1/8" gage.....grams/tex	+.83	+.81	+.44	+.42	-.07	-.02	+.27	+.03	+.62	+.35	+.69	-.03	+.38	+.17	-.63	+.42	+.59
Elongation (1/8").....pct	-.16	-.06	-.13	+.19	+.04	+.29	-.43	-.12	-.06	-.16	-.13	-.07	-.03	-.02	-.16	+.13	+.19
Shirley Analyzer:																	
Visible waste.....pct	-.39	-.37	-.21	-.19	-.09	-.25	+.21	+.32	-.37	-.43	-.46	-.11	+.24	-.20	+.46	-.27	-.40
Total waste.....pct	-.37	-.35	-.30	-.22	-.19	+.28	+.22	+.41	-.35	-.31	-.41	-.18	+.19	-.23	+.42	-.28	-.39
Color of raw stock:																	
Grayness.....No.	-.84	-.88	-.49	-.43	+.20	+.10	-.23	-.15	-.87	-.26	-.91	-.20	+.49	-.40	+.72	-.48	-.64
Yellowness.....No.	-.21	-.25	-.61	-.54	-.16	-.11	+.14	+.25	-.35	+.73	-.13	-.25	+.16	-.28	+.08	+.07	+.01
Composite.....index	+.84	+.86	+.54	+.48	-.24	-.13	+.27	+.08	+.87	+.20	+.89	+.23	-.46	+.40	-.71	+.49	+.64
Picker & card waste.....pct	-.39	-.37	-.33	-.32	-.17	-.33	+.25	+.56	-.39	-.25	-.42	-.06	+.11	-.10	+.44	-.34	-.43
Spinning Potential.....No.	+.92	+.94	+.71	+.65	-.06	+.01	+.33	+.01	+.76	-.04	+.71	+.11	-.28	+.23	-.68	+.36	+.56
Yarn skein strength:																	
22s (27 tex).....pounds		+.96	+.71	+.56	-.04	-.08	+.41	-.02	+.80	+.13	+.81	+.08	-.31	+.22	-.66	+.43	+.58
50s (12 tex).....pounds	+.96		+.66	+.66	-.15	-.09	+.35	+.04	+.86	+.10	+.85	+.04	-.34	+.20	-.74	+.45	+.64
Yarn elongation:																	
22s (27 tex).....pct	+.71	+.66		+.65	+.30	+.04	+.19	-.37	+.57	-.42	+.43	+.21	-.24	+.28	-.38	+.26	+.32
50s (12 tex).....pct	+.56	+.66	+.65		+.14	+.13	-.12	-.42	+.53	-.36	+.39	-.12	-.09	-.06	-.47	+.23	+.37
Yarn appearance:																	
22s (27 tex).....index	-.04	-.15	+.30	+.14		+.52	-.50	-.57	-.25	-.19	-.32	-.11	+.25	-.20	+.18	+.02	-.07
50s (12 tex).....index	-.08	-.09	+.04	+.13	+.52		-.60	-.56	-.21	.00	-.23	-.44	+.46	-.53	-.20	+.34	+.32
Yarn neps:																	
22 (27 tex).....No.	+.41	+.35	+.19	-.12	-.50	-.60		+.46	+.22	+.11	+.27	+.19	-.09	+.20	-.10	+.04	+.05
50s (12 tex).....No.	-.02	+.04	-.37	-.42	-.57	-.56	+.46		+.10	+.32	+.21	+.11	-.34	+.25	+.01	-.12	-.07
Color - 22s gray yarn:																	
Reflectance.....Rd	+.80	+.86	+.57	+.53	-.25	-.21	+.22	+.10		+.01	+.96	+.21	-.57	+.44	-.55	+.35	+.48
Yellowness.....+b	+.13	+.10	-.42	-.36	-.19	.00	+.11	+.32	+.01		+.28	-.33	-.01	-.23	-.34	+.29	+.34
Composite.....index	+.81	+.85	+.43	+.39	-.32	-.23	+.27	+.21	+.96	+.28		+.13	-.55	+.38	-.62	+.40	+.55
Color - 22s bleached yarn:																	
Reflectance.....Rd	+.08	+.04	+.21	-.12	-.11	-.44	+.19	+.11	+.21	-.33	+.13		-.34	+.88	+.16	-.23	-.23
Yellowness.....+b	-.31	-.34	-.24	-.09	+.25	+.46	-.09	-.34	-.57	-.01	-.55	-.34		-.73	.00	+.22	+.10
Composite.....index	+.22	+.20	+.28	-.06	-.20	-.53	+.20	+.25	+.44	-.23	+.38	+.88	-.73		+.10	-.26	-.20
Color - 22s dyed yarn:																	
Reflectance.....Rd	-.66	-.74	-.38	-.47	+.18	-.20	-.10	+.01	-.55	-.34	-.62	+.16	.00	+.10		-.77	-.93
Blueness.....-b	+.43	+.45	+.26	+.23	+.02	+.34	+.04	-.12	+.35	+.29	+.40	-.23	+.22	-.26	-.77		+.95
Composite.....index	+.58	+.64	+.32	+.37	-.07	+.32	+.05	-.07	+.48	+.34	+.55	-.23	+.10	-.20	-.93	+.95	

Table 11a--Cotton: Results of simple correlation analyses for the fiber and processing tests performed on combed yarns from 23 long staple samples from selected gin points, crop of 1979

Statistical Items	Picker & Card Waste	Comber waste	Combed Yarn Values							
			Yarn strength		Yarn elongation		Yarn appearance		Yarn neps	
			22s	50s	22s	50s	22s	50s	22s	50s
	Pct.	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.
Sample Distribution:										
Mean.....	8.06	17.8	138.1	50.4	6.9	5.7	127.8	114.3	18.6	121.1
Standard deviation (±).....	.96	1.18	12.0	5.4	.3	.3	5.2	9.5	12.4	68.6
Correlation Coef. for:										
Classification:										
Grade.....index	-.73	-.30	+.40	+.43	-.19	+.09	-.30	-.24	+.10	-.04
Staple.....32d inches	.00	-.60	+.57	+.59	+.27	+.38	-.06	-.22	+.06	+.01
Fiber length:										
2.5% span.....inches	+.06	-.49	+.43	+.38	+.50	+.35	+.22	-.20	-.10	-.15
50/2.5.....pct	-.27	-.54	+.41	+.41	+.28	-.24	-.24	+.06	-.02	-.10
Micronaire.....reading	+.01	+.27	-.73	-.69	-.50	-.49	+.59	+.75	-.52	-.60
Fiber strength:										
Zero gage.....Mpsi	-.46	-.54	+.78	+.80	+.16	+.38	-.06	-.23	+.22	+.10
1/8" gage.....grams/tex	-.40	-.55	+.82	+.84	+.32	+.49	-.22	-.21	+.40	+.28
Elongation (1/8").....pct	-.08	+.08	-.19	-.13	+.07	+.08	-.09	+.38	+.04	+.10
Shirley Analyzer:										
Visible waste.....pct	+.92	+.31	-.32	-.35	+.15	.00	+.09	+.03	+.08	+.21
Total waste.....pct	+.93	+.30	-.27	-.31	+.14	-.01	-.01	-.02	+.15	+.29
Color of raw stock:										
Grayness.....No.	+.52	+.62	-.83	-.86	-.23	-.54	+.37	+.26	-.42	-.29
Yellowness.....No.	-.02	+.25	-.15	-.15	-.39	-.41	-.08	-.09	+.02	-.04
Composite.....index	-.57	-.65	+.84	+.86	+.28	+.58	-.37	-.29	+.33	+.23
Picker & card waste.....pct		+.45	-.32	-.34	+.05	-.02	-.10	-.09	+.17	+.37
Comber waste.....pct	+.45		-.65	-.70	-.34	-.58	-.02	-.13	-.06	+.14
Combed yarn strength:										
22s (27 tex).....pounds	-.32	-.65		+.98	+.56	+.57	-.27	-.46	+.42	+.34
50s (12 tex).....pounds	-.34	-.70	+.98		+.53	+.65	-.27	-.34	+.42	+.34
Combed yarn elongation:										
22s (27 tex).....pct	+.05	-.34	+.56	+.53		+.54	-.03	-.31	+.30	+.38
50s (12 tex).....pct	-.02	-.58	+.57	+.65	+.54		-.13	-.04	+.29	+.34
Combed yarn appearance:										
22s (27 tex).....index	-.10	-.02	-.27	-.27	-.03	-.13		+.39	-.60	-.66
50s (12 tex).....index	-.09	-.13	-.46	-.34	-.31	-.04	+.39		-.29	-.40
Combed yarn neps:										
22s (27 tex).....No.	+.17	-.06	+.42	+.42	+.30	+.29	-.60	-.29		+.90
50s (12 tex).....No.	+.37	+.14	+.34	+.34	+.38	+.34	-.66	-.40	+.90	

Table 12.--Cotton: Results of multiple correlation analyses for the relationship of classification and supplemental fiber test measurements with processing tests performed on 84 short staple samples, collected at triweekly intervals from selected gin points, crop of 1979

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color of 22s yarn		
		Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
Mean Values for:													
Dependent variable	6.3	308	101	8.2	7.2	118	111	.9	41	49	95	99	97
Grade index	93	93	93	93	93	93	93	93	93	93	93	93	93
Staple length	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Micronaire	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Fiber strength (0 gage)	83	83	83	83	83	83	83	83	83	83	83	83	83
Uniformity ratio	45	45	45	45	45	45	45	45	45	45	45	45	45
Standard Deivations (±) for:													
Dependent variable	1.24	14.1	5.8	.59	.45	7.3	9.7	7.3	17.9	5.6	3.3	3.6	4.0
Grade index	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Staple length	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
Micronaire	.61	.61	.61	.61	.61	.61	.61	.61	.61	.61	.61	.61	.61
Fiber strength (0 gage)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Uniformity ratio	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Simple Correlation Coef. for:													
Grade index	-.54	+.05	+.05	+.10	-.04	+.21	+.13	+.02	+.06	+.11	+.52	+.42	+.41
Staple length	-.29	+.50	+.51	+.16	+.03	+.41	+.24	-.25	-.16	+.75	+.23	+.26	+.30
Micronaire	-.27	-.05	-.01	-.07	-.21	+.35	+.40	-.32	-.09	+.18	+.01	+.27	+.55
Fiber strength (0 gage)	-.18	+.08	+.17	-.25	-.22	+.01	+.15	-.20	-.18	-.01	+.17	+.02	+.14
Uniformity ratio	+.15	-.09	-.16	-.15	+.01	-.09	-.01	+.06	+.05	-.29	-.22	-.28	-.02
Multiple Cor. Data for:													
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH													
Multiple Cor. Coef.	.59	.50	.51	.18	.05	.45	.26	.25	.18	.75	.55	.47	.48
Partial Cor. Coef. for:													
Grade index	-.54	+.01	.00	+.08	-.04	+.19	+.11	+.04	+.08	+.06	+.51	+.41	+.40
Staple length	-.29	+.50	+.51	+.15	+.03	+.40	+.23	-.25	-.17	+.75	+.22	+.25	+.29
Beta Coefficients for:													
Grade index	-.52	+.01*	.00*	+.08*	-.04*	+.18*	+.11*	+.04*	+.08*	+.04*	+.50	+.40	+.38
Staple length	-.24*	+.50	+.51	+.15*	+.03*	+.39	+.23*	-.25*	-.17*	+.74	+.19*	+.23*	+.27*
Regression Equation:													
Constant (a)	+24.84	+137.62	+30.31	+5.17	+7.18	+26.49	+40.48	+48.13	+88.31	-54.76	+52.37	+54.60	+44.48
Regression Coef. for:													
Grade index	-.12	+.02	.00	+.01	.00	+.24	+.19	+.06	+.25	+.04	+.31	+.27	+.29
Staple length	-.23	+5.27	+2.22	+.07	+.01	+2.16	+1.66	-1.38	-2.22	+3.10	+.45	+.61	+.80
Standard error (±)	1.00	12.16	4.95	.58	.44	6.54	9.38	7.10	17.58	3.68	2.72	3.14	3.50
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE													
Multiple Cor. Coef.	.60	.65	.63	.27	.28	.47	.40	.33	.18	.81	.58	.49	.65
Partial Cor. Coef. for:													
Grade index	-.54	+.05	+.03	+.10	-.02	+.18	+.09	+.06	+.08	+.11	+.53	+.40	+.41
Staple length	-.19	+.65	+.63	-.24	+.19	+.27	+.01	-.09	-.13	+.80	+.31	+.14	-.04
Micronaire	-.10	-.48	-.43	-.21	-.28	+.14	+.32	-.22	-.01	-.47	-.23	+.12	+.50
Beta Coefficients for:													
Grade index	-.51	+.04*	+.03*	+.10*	-.02*	+.17*	+.08*	+.06*	+.08*	+.07*	+.52	+.39	+.36
Staple length	-.19*	+.79	+.77	-.30*	+.23*	+.31*	+.01*	-.10*	-.16*	+.96	+.32*	+.15*	-.04*
Micronaire	-.10*	-.51	-.46	-.25*	-.34*	+.16*	+.38	-.27*	-.01*	-.38	-.24*	+.13*	+.53
Regression Equation:													
Constant (a)	+23.77	+74.10	+6.70	+3.86	+5.82	+36.64	+73.39	+30.63	+86.64	-73.85	+45.46	+58.91	+63.59
Regression Coef. for:													
Grade index	-.12	+.10	+.03	+.01	.00	+.23	+.15	+.08	+.26	+.07	+.32	+.26	+.26
Staple length	-.18	+8.31	+3.35	+.13	+.08	+1.68	+.09	-.55	-2.14	+4.02	+.78	+.40	-.11
Micronaire	-.20	-11.66	-4.34	-.24	-.25	+1.87	+6.04	-3.21	-.31	-3.51	-1.27	+.79	+3.51
Standard Error (±)	.99	10.69	4.46	.57	.43	6.47	8.89	6.91	17.57	3.24	2.65	3.12	3.04

*Statistically insignificant

Table 12.--Continued

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color of 22s yarn		
		Coarse	Fine	Coarse	Fine	Coarse	Fine	Coarse	Fine		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH (0 GAGE)													
Multiple Cor. Coef.....	.62	.66	.66	.37	.35	.47	.42	.38	.25	.81	.60	.49	.66
Partial Coef. for:													
Grade index.....	-.54	+.04	+.01	+.12	-.01	+.18	+.08	+.08	+.09	+.11	+.53	+.40	+.41
Staple length.....	-.20	+.65	+.65	+.24	+.19	+.27	+.02	-.10	-.14	+.80	+.32	+.14	-.04
Micronaire.....	-.09	-.48	-.46	-.19	-.27	+.14	+.31	-.22	.00	-.47	-.25	+.13	+.49
Fiber str. (0 gage).....	-.17	+.13	+.25	-.25	-.21	-.01	+.13	-.20	-.18	+.01	+.18	-.02	+.12
Beta Coefficients for:													
Grade index.....	-.50	+.03*	+.01*	+.11*	-.01*	+.17*	+.07*	+.07*	+.09*	+.07*	+.50	+.39	+.34
Staple length.....	-.20*	+.79	+.78	+.28*	+.22*	+.31*	+.02*	-.11*	-.17*	+.96	+.33	+.15*	-.03*
Micronaire.....	-.08*	-.51	-.47	-.23*	-.33*	+.16*	+.37*	-.25*	.00*	-.38	-.25*	+.14*	+.53
Fiber str. (0 gage).....	-.14*	+.10*	+.19*	-.25*	-.20*	-.01*	+.12*	-.19*	-.18*	+.01*	+.15*	-.02*	+.09*
Regression Equation:													
Constant (a).....	+28.19	+37.55	-21.47	+7.57	+8.07	+38.59	+44.12	+66.82	+169.01	-74.91	+33.38	+60.50	+54.38
Regression Coef. for:													
Grade index.....	-.12	+.08	+.01	+.01	.00	+.23	+.14	+.10	+.30	+.07	+.31	+.26	+.26
Staple length.....	-.18	+8.36	+3.39	+.13	+.07	+1.67	+.13	-.60	-2.26	+4.02	+.80	+.40	-.10
Micronaire.....	-.17	-11.87	-4.49	-.22	-.24	+1.88	+5.89	-3.02	+.14	-3.51	-1.34	+.80	+3.46
Fiber str. (0 gage)....	-.05	+.45	+.35	-.05	-.03	-.02	+.36	-.44	-1.01	+.01	+.15	-.02	+.11
Standard Error (±).....	.98	10.60	4.32	.55	.42	6.47	8.81	6.77	17.28	3.24	2.60	3.12	3.01
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH, (0 GAGE), UNIFORMITY RATIO													
Multiple Cor. Coef.....	.62	.67	.66	.37	.36	.47	.42	.39	.26	.81	.61	.54	.66
Partial Cor. Coef. for:													
Grade index.....	-.53	+.06	+.02	+.12	.00	+.18	+.08	+.09	+.10	+.11	+.52	+.39	+.40
Staple length.....	-.16	+.66	+.63	+.22	+.21	+.26	.00	-.06	-.12	+.78	+.27	+.05	-.05
Micronaire.....	-.11	-.51	-.45	-.18	-.29	+.14	+.31	-.23	-.01	-.45	-.21	+.19	+.49
Fiber str. (0 gage).....	-.19	+.11	+.24	-.25	-.22	-.01	+.13	-.22	-.19	+.02	+.20	+.02	+.12
Uniformity ratio.....	+.10	+.16	+.04	-.02	+.12	.00	-.04	+.10	+.05	-.05	-.13	-.26	-.04
Beta Coefficients for:													
Grade index.....	-.50	+.04*	+.01*	+.11*	.00*	+.17*	+.07*	+.08*	+.09*	+.06*	+.49	+.36	+.34
Staple length.....	-.16*	+.85	+.80	+.27*	+.27*	+.30*	.00*	-.07*	-.15*	+.95	+.28*	+.05*	-.05*
Micronaire.....	-.11*	-.55	-.48	-.22*	-.36*	+.16*	+.38*	-.28*	-.01*	-.38	-.22*	+.20*	+.54
Fiber str. (0 gage).....	-.15*	+.08*	+.19*	-.24*	-.21*	-.01*	+.12*	-.21*	-.19*	+.01*	+.17*	+.02*	+.09*
Uniformity ratio.....	+.09*	+.13*	+.03*	-.02*	+.12*	.00*	-.04*	+.10*	+.06*	-.03*	-.11*	-.12*	-.03*
Regression Equation:													
Constant (a).....	+23.65	-40.79	-29.28	+8.08	+5.80	+39.48	+59.88	+36.75	+128.10	-67.70	+48.71	+96.15	+60.08
Regression Coef. for:													
Grade index.....	-.12	+.12	+.01	+.01	.00	+.23	+.13	+.11	+.32	+.07	+.30	+.24	+.25
Staple length.....	-.15	+8.92	+3.45	+.12	+.09	+1.67	+.02	-.39	-1.97	+3.97	+.69	+.14	-.14
Micronaire.....	-.22	-12.73	-4.58	-.22	-.26	+1.89	+6.06	-3.35	-.31	-3.43	-1.17	+1.19	+3.52
Fiber str. (0 gage)....	-.06	+.37	+.34	-.04	-.03	-.02	+.37	-.47	-1.05	+.02	+.17	+.02	+.12
Uniformity ratio.....	+.09	+1.49	+.15	-.01	+.04	-.02	-.30	+.57	+.78	-.14	-.29	-.68	-.11
Standard Error (±).....	.97	10.45	4.32	.55	.41	6.47	8.81	6.74	17.25	3.24	2.58	3.01	3.01

*Statistically insignificant

Table 13.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 84 short staple samples, collected at triweekly intervals from selected gin points, crop of 1979

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color of 22s yarn		
		Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
Mean Values for:													
Dependent variable	6.3	308	101	8.2	7.2	118	111	9	41	49	95	99	97
Grayness	1	1	1	1	1	1	1	1	1	1	1	1	1
Yellowness	4	4	4	4	4	4	4	4	4	4	4	4	4
Nonlint content (S.A.)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
2.5% span length	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Micronaire	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Standard Deviation (±) for:													
Dependent variable	1.24	14.1	5.8	.59	.45	7.3	9.7	7.3	17.9	5.6	3.3	3.6	4.0
Grayness	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7
Yellowness	.6	.7	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6
Nonlint content (S.A.)	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
2.5% span length	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Micronaire	.61	.61	.61	.61	.61	.61	.61	.61	.61	.61	.61	.61	.61
Simple Correlation Coef. for:													
Grayness	+.41	-.22	-.27	-.07	+.04	-.14	-.11	+.07	+.13	-.26	-.76	-.49	-.34
Yellowness	+.19	-.25	-.30	-.09	+.09	-.21	-.21	+.20	+.18	-.37	-.45	-.37	+.43
Nonlint content (S.A.)	+.55	-.14	-.15	-.01	+.09	-.40	-.28	+.07	+.24	-.24	-.42	-.37	-.30
2.5% span length	-.18	+.50	+.48	+.12	+.03	+.44	+.22	-.15	-.17	+.74	+.19	+.15	+.16
Micronaire	-.27	-.05	-.01	-.07	-.21	+.35	+.40	-.32	-.09	+.18	+.01	+.27	+.55
Multiple Cor. Data for:													
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS													
Multiple Cor. Coef.	.41	.28	.34	.10	.09	.22	.22	.20	.19	.38	.77	.52	.46
Partial Cor. Coef. for:													
Grayness	+.38	-.13	-.16	-.04	.00	-.05	-.02	-.02	+.06	-.12	-.70	-.39	-.19
Yellowness	+.01	-.17	-.22	-.06	+.08	-.17	-.19	+.19	+.14	-.29	-.21	-.21	-.33
Beta Coefficients for:													
Grayness	+.41	-.14*	-.17*	-.04*	.00*	-.05*	-.02*	-.02*	+.07*	-.12*	-.69	-.40	-.19*
Yellowness	+.01*	-.19*	-.23*	-.07*	+.09*	-.19*	-.21*	+.21*	+.15*	-.31*	-.15*	-.20*	-.35
Regression Equation:													
Constant (a)	+5.15	+328.80	+111.59	+8.52	+6.90	+128.02	+124.82	-.32	+21.24	+61.28	+103.16	+106.32	+107.21
Regression Coef. for:													
Grayness	+.69	-2.74	-1.34	-.04	.00	-.52	-.29	-.18	+1.63	-.94	-3.06	-1.94	-1.04
Yellowness	+.02	-4.10	-2.07	-.06	+.06	-2.16	-3.10	+2.41	+4.16	-2.71	-.78	-1.12	-2.15
Standard Error (±)	1.13	13.48	5.42	.59	.44	7.13	9.48	7.18	17.53	5.14	2.07	3.05	3.55
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.)													
Multiple Cor. Coef.	.57	.28	.34	.10	.12	.45	.34	.21	.28	.41	.77	.54	.49
Partial Cor. Coef. for:													
Grayness	+.14	-.10	-.13	-.05	-.04	+.18	+.13	-.04	-.05	-.03	-.63	-.27	-.08
Yellowness	+.04	-.17	-.22	-.06	+.09	-.21	-.21	+.19	+.15	-.30	-.22	-.22	-.34
Nonlint (S.A.)	+.43	-.03	-.02	+.03	+.08	-.40	-.27	+.04	+.21	-.14	-.04	-.17	-.17
Beta Coefficients for:													
Grayness	+.15*	-.12*	-.16*	-.06*	-.06*	+.21*	+.15*	-.05*	-.07*	-.04*	-.67	-.30*	-.09*
Yellowness	+.03*	-.19*	-.23*	-.07*	+.10*	-.21*	-.22*	+.21*	+.16*	-.32*	-.16*	-.21*	-.35
Nonlint (S.A.)	+.46	-.04*	-.02*	+.04*	+.10*	-.47	-.31*	+.05*	+.24*	-.16*	-.03*	-.17*	-.18*
Regression Equation:													
Constant (a)	+3.70	+330.06	+111.86	+8.47	+6.79	+136.71	+132.59	-1.25	+10.27	+63.48	+103.41	+107.85	+109.04
Regression Coef. for:													
Grayness	+.26	-2.37	-1.26	-.05	-.03	+2.07	+2.03	-.46	-1.64	-.28	-2.99	-1.48	-.50
Yellowness	+.06	-4.14	-2.07	-.06	+.07	-2.40	-3.32	+2.44	+4.46	-2.77	-.79	-1.16	-2.20
Nonlint (S.A.)	+.52	-.45	-.10	+.02	+.04	-3.12	-2.79	+.33	+3.94	-.79	-.09	-.55	-.66
Standard Error (±)	1.02	13.48	5.42	.59	.44	6.53	9.13	7.17	17.15	5.09	2.07	3.01	3.50

*Statistically insignificant.

Table 13.--Continued.

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color of 22s yarn		
		Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH													
Multiple Cor. Coef.....	.57	.55	.55	.15	.16	.54	.35	.22	.28	.78	.78	.54	.49
Partial Cor. Coef. for:													
Grayness.....	+.15	-.11	-.14	-.05	-.04	+.14	+.13	-.04	-.05	-.14	-.64	-.27	-.08
Yellowness.....	.00	+.07	+.01	.00	+.13	-.04	-.15	+.15	+.10	+.07	-.13	-.19	-.32
Nonlint (S.A.).....	+.39	+.13	+.13	+.06	+.11	-.33	-.24	+.02	+.18	+.11	+.01	-.15	-.17
2.5% span length.....	-.08	+.49	+.46	+.12	+.11	+.33	+.08	-.06	-.07	+.73	+.15	+.02	-.04
Beta Coefficients for:													
Grayness.....	+.16*	-.12*	-.15*	-.06*	-.05*	+.16*	+.15*	-.05*	-.07*	-.12*	-.67	-.31*	-.09*
Yellowness.....	.00*	+.07*	+.01*	.00*	+.16*	-.05*	-.18*	+.18*	+.13*	+.05*	-.10*	-.20*	-.37
Nonlint (S.A.).....	+.44	+.13*	+.14*	+.08*	+.14*	-.36	-.29*	+.03*	+.22*	+.09*	.00*	-.16*	-.19*
2.5% span length.....	-.07*	+.54	+.50	+.13*	+.12*	+.34	+.08*	-.07*	_.07*	+.77	+.11*	+.02*	-.04*
Regression Equation:													
Constant (a).....	+6.37	+100.62	+25.25	+6.05	+5.11	+62.64	+108.09	+14.09	+49.56	-65.36	+92.43	+106.05	+114.03
Regression Coef. for:													
Grayness.....	+.27	-2.31	-1.21	-.05	-.03	+1.58	+2.03	-.47	-1.64	-.87	-2.99	-1.48	-.50
Yellowness.....	.00	+1.58	+.08	.00	+.11	-.54	-2.71	+2.05	+3.48	+.46	-.52	-1.11	-2.32
Nonlint (S.A.).....	+.50	+1.72	+.72	+.04	+.06	-2.42	-2.56	+.19	+3.57	+.44	+.01	-.53	-.70
2.5% span length.....	-2.31	+196.81	+74.24	+2.07	+1.44	+64.17	+21.02	-13.15	-33.71	+111.29	+9.42	+1.55	-4.28
Standard Error (±).....	1.02	11.78	4.83	.58	.44	6.17	9.10	7.16	17.11	3.48	2.05	3.01	3.49
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH, MICRONAIRE													
Multiple Cor. Coef.....	.59	.61	.59	.21	.27	.54	.43	.35	.30	.79	.78	.57	.70
Partial Cor. Coef. for:													
Grayness.....	+.24	+.10	+.05	+.04	+.09	+.06	-.06	+.14	-.11	.00	-.53	-.35	-.44
Yellowness.....	-.12	-.13	-.15	-.08	-.02	+.02	+.03	-.04	+.15	-.06	-.15	-.02	+.05
Nonlint (S.A.).....	+.27	-.05	-.02	-.01	-.10	-.24	-.08	-.13	+.21	-.01	-.04	-.02	+.16
2.5% span length.....	-.05	+.53	+.49	+.14	+.14	+.31	+.04	-.02	-.08	+.74	+.16	-.02	-.15
Micronaire.....	-.20	-.32	-.27	-.14	-.21	+.10	+.27	-.28	+.11	-.20	-.08	+.24	+.57
Beta Coefficients for:													
Grayness.....	+.31*	+.13*	+.06*	+.07*	+.15*	+.08*	-.08*	+.21*	-.16*	.00*	-.63	-.49	-.56
Yellowness.....	-.14*	-.16*	-.19*	-.12*	-.02*	+.03*	+.04*	-.06*	+.21*	-.06*	-.15*	-.03*	+.06*
Nonlint (S.A.).....	+.32*	-.06*	-.03*	-.02*	-.01*	-.30*	-.11*	-.17*	+.29*	-.01*	-.03*	-.02*	+.16*
2.5% span length.....	-.04*	+.59	+.54	+.16*	+.16*	+.32*	+.04*	-.02*	-.09*	+.79	+.12*	-.02*	-.13*
Micronaire.....	-.24*	-.40	-.33*	-.20*	-.31*	+.13*	+.37*	-.41*	+.15*	-.19*	-.07*	+.29*	+.72
Regression Equation:													
Constant (a).....	+8.43	+139.18	+38.53	+6.86	+6.06	+56.11	+83.11	+34.68	+31.27	-58.19	+94.11	+98.84	+93.99
Regression Coef. for:													
Grayness.....	+.52	+2.54	+.47	+.05	+.09	+.78	-1.11	+2.13	-3.95	+.01	-2.78	-2.39	-3.03
Yellowness.....	-.28	-3.55	-1.68	-.11	-.02	+.33	+.62	-.69	+5.92	-.49	-.74	-.15	+.34
Nonlint (S.A.).....	+.36	-.78	-.14	-.01	-.01	-2.00	-.95	-1.14	+4.76	-.03	-.09	-.07	+.59
2.5% span length.....	-1.38	+214.12	+80.21	+2.44	+1.86	+61.26	+9.81	-3.89	-41.92	+114.49	+10.17	-.69	-13.28
Micronaire.....	-.49	-9.16	-3.15	-.19	-.23	+1.54	+5.93	-4.89	+4.34	-1.69	-.40	+1.71	+4.76
Standard Error (±).....	1.00	11.14	4.64	.58	.43	6.13	8.76	6.86	17.02	3.41	2.04	2.92	2.88

*Statistically insignificant.

Table 14.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 84 short staple samples, collected at triweekly intervals from selected gin points, crop of 1979

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color of 22s yarn		
		Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
Mean Values for:													
Dependent variable	6.3	308	101	8.2	7.2	118	111	9	41	49	95	99	97
2.5% span length	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Micronaire	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Fiber str. (1/8" gage)	22	22	22	22	22	22	22	22	22	22	22	22	22
Uniformity ratio	45	45	45	45	45	45	45	45	45	45	45	45	45
Elongation (1/8" gage)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Standard Deviation (±) for:													
Dependent variable	1.24	14.1	5.8	.59	.45	7.3	9.7	7.3	17.9	5.6	3.3	3.6	4.0
2.5% span length	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Micronaire	.61	.61	.61	.61	.61	.61	.61	.61	.61	.61	.61	.61	.61
Fiber str. (1/8" gage)	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9
Uniformity ratio	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Elongation (1/8" gage)	.57	.57	.57	.57	.57	.57	.57	.57	.57	.57	.57	.57	.57
Simple Correlation Coef. for:													
2.5% span length	-.18	+.50	+.48	+.12	+.03	+.44	+.22	-.15	-.17	+.74	+.19	+.15	+.16
Micronaire	-.27	-.05	-.01	-.07	-.21	+.35	+.40	-.32	-.09	+.18	+.01	+.27	+.55
Fiber str. (1/8" gage)	-.21	+.42	+.42	+.25	+.15	+.15	+.15	-.05	-.25	+.33	+.38	+.02	-.08
Uniformity ratio	+.15	-.09	-.16	-.15	+.01	-.09	-.01	+.06	+.05	-.29	-.22	-.28	-.02
Elongation (1/8" gage)	+.09	-.10	-.20	+.27	+.23	+.06	+.09	+.16	+.21	-.13	+.07	-.06	-.05
Multiple Cor. Data for:													
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE													
Multiple Cor. Coef.	.28	.58	.54	.18	.26	.47	.40	.32	.17	.76	.21	.27	.56
Partial Cor. Coef. for:													
2.5% span length	-.08	+.57	+.54	+.17	+.15	+.33	+.05	-.01	-.15	+.75	+.21	+.04	-.11
Micronaire	-.21	-.34	-.28	-.14	-.26	+.20	+.34	-.28	-.02	-.25	-.09	+.22	+.54
Beta Coefficients for:													
2.5% span length	-.08*	+.64	+.60	+.19*	+.16*	+.35	+.05*	-.01*	-.16*	+.83	+.23*	+.04*	-.10*
Micronaire	-.23*	-.33	-.27*	-.15*	-.28*	+.20*	+.37	-.31*	-.02*	-.18*	-.09*	+.25*	+.60
Regression Equation:													
Constant (a)	+10.57	+100.07	+20.28	+5.81	+6.06	+43.27	+77.13	+24.64	+119.06	-65.16	+77.47	+89.57	+93.66
Regression Coef. for:													
2.5% span length	-2.63	+233.62	+89.52	+2.90	+1.84	+66.32	+13.21	-1.79	-75.51	+119.32	+19.66	+4.09	-10.87
Micronaire	-.47	-7.58	-2.58	-.15	-.21	+2.37	+5.94	-3.77	-.64	-1.69	-.51	+1.45	+3.94
Standard Error (±)	1.19	11.49	4.87	.58	.43	6.45	8.91	6.95	17.58	3.60	3.19	3.44	3.31
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE FIBER STR. (1/8" GAGE)													
Multiple Cor. Coef.	.43	.65	.63	.28	.26	.52	.51	.37	.33	.80	.43	.29	.58
Partial Cor. Coef. for:													
2.5% span length	+.01	+.54	+.49	+.12	+.13	+.28	-.03	+.04	-.08	+.74	+.12	+.01	-.16
Micronaire	-.34	-.17	-.10	-.03	-.22	+.29	+.45	-.34	-.15	-.07	+.09	+.25	+.57
Fiber str. (1/8" gage)	-.34	+.38	+.39	+.21	+.04	+.26	+.34	-.19	-.29	+.39	+.38	+.12	+.20
Beta Coefficients for:													
2.5% span length	+.01*	+.55	+.51	+.13*	+.15*	+.29*	-.03*	+.04*	-.08*	+.76	+.13*	+.01*	-.15*
Micronaire	-.40	-.16*	-.10*	-.04*	-.26*	+.32*	+.54	-.41	-.17*	-.05*	+.10*	+.31*	+.69
Fiber Str. (1/8" gage)	-.36	+.34	+.36	+.23*	+.04*	+.26*	+.35	-.20*	-.32*	+.28	+.41	+.13*	+.18*
Regression Equation:													
Constant (a)	+19.95	+.16	-23.40	+2.94	+5.67	+4.23	+6.97	+55.66	+236.20	-97.65	+49.47	+79.86	+78.43
Regression Coef. for:													
2.5% span length	+.28	+202.56	+75.94	+2.01	+1.72	+54.19	-8.60	+7.85	-39.10	+109.22	+10.96	+1.08	-15.60
Micronaire	-.82	-3.79	-.92	-.04	-.19	+3.85	+8.60	-4.95	-5.08	-.46	+.56	+1.82	+4.51
Fiber str. (1/8" gage)	-.51	+5.40	+2.36	+.16	+.02	+2.11	+3.79	-1.68	-6.33	+1.76	+1.51	+.52	+.82
Standard Error (±)	1.12	10.64	4.49	.57	.43	6.22	8.38	6.82	16.83	3.31	2.95	3.41	3.25

*Statistically insignificant

Table 14.--Continued

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color of 22s yarn		
		Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE FIBER STR. (1/8" GAGE), UNIFORMITY RATIO													
Multiple Cor. Coef.....	.46	.66	.63	.30	.27	.53	.51	.38	.33	.81	.46	.42	.59
Partial Cor. Coef. for:													
2.5% span length.....	+.05	+.54	+.47	+.09	+.14	+.26	-.04	+.06	-.07	+.71	+.08	-.07	-.18
Micronaire.....	-.36	-.18	-.09	-.01	-.22	+.29	+.45	-.35	-.15	-.04	+.12	+.31	+.57
Fiber str. (1/8" gage)....	-.35	+.38	+.39	+.22	+.04	+.26	+.34	-.20	-.29	+.40	+.39	+.14	+.20
Uniformity ratio.....	+.17	+.08	-.03	-.11	+.06	-.03	-.03	+.09	+.03	-.18	-.20	-.31	-.09
Beta Coefficients for:													
2.5% span length.....	+.05*	+.57	+.50	+.10*	+.17*	+.28*	-.04*	+.07*	-.08*	+.72	+.08*	-.07*	-.17*
Micronaire.....	-.44	-.18*	-.09*	-.02*	-.28*	+.33*	+.54	-.43	-.18*	-.03*	+.14*	+.37*	+.70
Fiber str. (1/8" gage)....	-.37	+.34	+.36	+.24*	+.04*	+.26*	+.35	-.21*	-.32*	+.28	+.42	+.14*	+.18*
Uniformity ratio.....	+.16*	+.06*	-.02*	-.11*	+.06*	-.03*	-.03*	+.09*	+.03*	-.11*	-.19*	-.31	-.08*
Regression Equation:													
Constant (a).....	+11.75	-36.02	-17.51	+5.61	+4.55	+12.89	+17.14	+29.52	+216.45	-71.34	+73.99	+124.41	+91.31
Regression Coef. for:													
2.5% span length.....	+1.66	+209.39	+74.83	+1.53	+1.92	+52.60	-10.44	+12.51	-35.51	+103.71	+6.80	-6.62	-17.88
Micronaire.....	-.89	-4.06	-.87	-.02	-.20	+3.91	+8.68	-5.15	-5.23	-.27	+.74	+2.16	+4.61
Fiber str. (1/8" gage)..	-.51	+5.37	+2.36	+.16	+.02	+2.11	+3.80	-1.69	-6.34	+1.77	+1.53	+.55	+.83
Uniformity ratio.....	+.16	+.69	-.11	-.05	+.02	-.17	-.20	+.50	+.38	-.49	-.48	-.87	-.25
Standard Error (±).....	1.10	10.61	4.49	.56	.43	6.22	8.37	6.79	16.83	3.26	2.89	3.25	3.23
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE FIBER STR. (1/8" GAGE), UNIFORMITY RATIO, ELONGATION (1/8" GAGE)													
Multiple Cor. Coef.....	.46	.66	.64	.41	.34	.56	.54	.39	.39	.81	.47	.42	.59
Partial Cor. Coef. for:													
2.5% span length.....	+.06	+.52	+.44	+.16	+.20	+.32	+.01	+.08	-.02	+.71	+.09	-.07	-.15
Micronaire.....	-.36	-.18	-.11	+.02	-.21	+.32	+.47	-.34	-.13	-.03	+.13	+.31	+.57
Fiber str. (1/8" gage)....	-.35	+.38	+.41	+.20	+.01	+.25	+.33	-.21	-.31	+.39	+.38	+.14	+.19
Uniformity ratio.....	+.18	+.08	-.04	-.10	+.08	-.02	-.01	+.10	+.04	-.18	-.19	-.31	-.09
Elongation (1/8" gage)....	+.06	-.03	-.18	+.29	+.22	+.24	+.23	+.10	+.21	+.07	+.08	-.01	+.08
Beta Coefficients for:													
2.5% span length.....	+.07*	+.57	+.46	+.18*	+.23*	+.34*	+.02*	+.09*	-.02*	+.73	+.10*	-.07*	-.15*
Micronaire.....	-.43	-.18*	-.11*	+.02*	-.25*	+.35*	+.57	-.42	-.15*	-.02*	+.15*	+.37*	+.71
Fiber Str. (1/8" gage)....	-.37	+.34	+.38	+.20*	+.02*	+.23*	+.32	-.22*	-.34*	+.28	+.41	+.14*	+.18*
Uniformity ratio.....	+.17*	+.06*	-.03*	-.09*	+.07*	-.02*	-.01*	+.09*	+.04*	-.11*	-.18*	-.31*	-.07*
Elongation (1/8" gage)....	+.05*	-.02*	-.15*	+.30*	+.23*	+.22*	+.21*	+.10*	+.21*	+.04*	+.07*	-.01*	+.07*
Regression Equation:													
Constant (a).....	+10.41	-29.90	-.05	+1.99	+2.48	-19.89	-23.98	+14.25	+139.66	-76.16	+69.10	+125.25	+85.71
Regression Coef. for:													
2.5% span length.....	+2.12	+207.27	+68.76	+2.78	+2.65	+63.98	+3.82	+17.80	-8.86	+105.39	+8.49	-6.91	-15.94
Micronaire.....	-.88	-4.12	-1.03	+.02	-.18	+4.22	+9.06	-5.00	-4.52	-.22	+.79	+2.15	+4.66
Fiber str. (1/8" gage)..	-.52	+5.41	+2.47	+.13	+.01	+1.92	+3.55	-1.78	-6.80	+1.74	+1.50	+.56	+.80
Uniformity ratio.....	+.16	+.67	-.15	-.04	+.03	-.09	-.10	+.54	+.56	-.48	-.47	-.87	-.24
Elongation (1/8" gage)..	+.12	-.53	-1.50	+.31	+.18	+2.82	+3.54	+1.32	+6.61	+.41	+.42	-.07	+.48
Standard Error (±).....	1.10	10.60	4.42	.54	.42	6.03	8.16	6.76	16.45	3.25	2.88	3.25	3.22

*Statistically insignificant

Table 15.--Cotton: Results of multiple correlation analyses for the relationship of classification and supplemental fiber test measurements with processing tests performed on 304 medium staple samples, collected at triweekly intervals from selected gin points, crop of 1979

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color of 22s yarn		
		Coarse	Fine	Coarse	Fine	Coarse	Fine	Coarse	Fine		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
Mean Values for:													
Dependent variable.....	6.7	110	38	6.6	5.2	97	65	103	348	59	94	100	98
Grade index.....	94	94	94	94	94	94	94	94	94	94	94	94	94
Staple length.....	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0
Micronaire.....	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Fiber strength (0 gage)....	86	86	86	86	86	86	86	86	86	86	86	86	86
Uniformity ratio.....	45	45	45	45	45	45	45	45	45	45	45	45	45
Standard Deivations (±) for:													
Dependent variable.....	1.06	13.5	7.9	.60	.57	14.7	7.3	45	134	11.3	4.6	2.9	4.1
Grade index.....	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Staple length.....	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21
Micronaire.....	.54	.54	.54	.54	.54	.54	.54	.54	.54	.54	.54	.54	.54
Fiber strength (0 gage)....	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Uniformity ratio.....	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Simple Correlation Coef. for:													
Grade index.....	-.63	+.22	+.13	-.06	-.04	+.22	+.14	-.30	-.22	+.06	+.69	+.10	+.19
Staple length.....	-.42	+.59	+.49	+.30	+.30	+.23	+.17	+.14	-.03	+.62	-.08	+.07	+.30
Micronaire.....	-.48	-.04	-.05	-.27	-.28	+.46	+.37	-.18	-.19	+.03	-.05	+.06	+.44
Fiber strength (0 gage)....	-.28	+.62	+.53	-.22	-.04	+.07	.00	+.19	-.04	+.41	+.32	-.20	+.01
Uniformity ratio.....	-.24	+.37	+.31	+.14	+.10	+.30	+.31	+.16	-.27	+.36	-.01	-.15	+.22
Multiple Cor. Data for:													
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH													
Multiple Cor. Coef.....	.74	.62	.50	.31	.31	.31	.22	.33	.22	.62	.70	.12	.35
Partial Cor. Coef. for:													
Grade index.....	-.67	+.24	+.13	-.08	-.05	+.22	+.14	-.30	-.22	+.04	+.69	+.09	+.19
Staple length.....	-.51	+.59	+.49	+.30	+.30	+.22	+.17	+.15	-.03	+.62	-.14	+.07	+.30
Beta Coefficients for:													
Grade index.....	-.61	+.19	+.11*	-.07*	-.05*	+.21	+.14*	-.30	-.22	+.04*	+.69	+.09*	+.18
Staple length.....	-.40	+.58	+.48	+.30	+.30	+.22	+.17*	+.15	-.03*	+.62	-.10*	+.06*	+.30
Regression Equation:													
Constant (a).....	+30.96	-164.12	-89.06	+2.16	+.74	-54.83	+11.49	+164.56	+1003.61	-149.45	+48.70	+89.77	+49.74
Regression Coef. for:													
Grade index.....	-.13	+.52	+.17	-.01	.00	+.62	+.20	-2.68	-5.86	+.08	+.63	+.05	+.14
Staple length.....	-.35	+6.45	+3.16	+.15	+.14	+2.66	+1.01	+5.46	-2.95	+5.75	-.40	+.16	+1.00
Standard error (±).....	.71	10.57	6.89	.57	.54	14.00	7.12	42.29	130.62	8.83	3.29	2.89	3.83
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE													
Multiple Cor. Coef.....	.77	.71	.58	.52	.53	.48	.38	.38	.27	.66	.72	.12	.47
Partial Cor. Coef. for:													
Grade index.....	-.65	+.36	+.21	+.03	+.07	+.13	+.06	-.26	-.18	+.12	+.72	+.09	+.11
Staple length.....	-.41	+.69	+.56	+.46	+.47	+.07	+.04	+.22	+.03	+.66	-.03	+.05	+.17
Micronaire.....	-.30	-.44	-.34	-.43	-.46	+.39	+.31	-.20	-.16	-.30	-.27	+.02	+.34
Beta Coefficients for:													
Grade index.....	-.56	+.28	+.18	+.03*	+.06*	+.12*	+.06*	-.26	-.18	+.09*	+.74	+.09*	+.10*
Staple length.....	-.31	+.73	+.60	+.48	+.49	+.06*	+.04*	+.23	+.04*	+.72	-.02*	+.06*	+.16*
Micronaire.....	-.23	-.38	-.32	-.46	-.48	+.41	+.34	-.21	-.17*	-.27	-.22	+.02*	+.35
Regression Equation:													
Constant (a).....	+29.22	-201.56	-107.75	+.18	-1.26	-11.15	+29.53	+97.30	+843.02	-171.21	+41.40	+90.21	+60.22
Regression Coef. for:													
Grade index.....	-.12	+.74	+.29	.00	+.01	+.36	+.09	-2.27	-4.89	+.21	+.68	+.05	+.08
Staple length.....	-.27	+8.07	+3.97	+.24	+.23	+.77	+.23	+8.36	+3.99	+6.69	-.08	+.14	+.55
Micronaire.....	-.44	-9.58	-4.78	-.51	-.51	+11.17	+4.61	-17.21	-41.08	-5.57	-1.87	+.11	+2.68
Standard Error (±).....	.67	9.51	6.49	.51	.48	12.31	6.76	41.46	129.10	8.42	3.16	2.89	3.60

*Statistically insignificant

Table 15.--Continued

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color of 22s yarn		
		Coarse	Fine	Coarse	Fine	Coarse	Fine	Coarse	Fine		Gray yarn	Bleached yarn	Dyed yarn
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH (0 GAGE)	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
Multiple Cor. Coef.....	.77	.80	.68	.64	.56	.48	.38	.47	.27	.70	.73	.32	.49
Partial Coef. for:													
Grade index.....	-.63	+.09	+.01	+.18	+.14	+.14	+.09	-.36	-.02	.00	+.69	+.20	+.15
Staple length.....	-.42	+.65	+.48	+.58	+.51	+.08	+.06	+.12	+.19	+.61	-.06	+.15	+.20
Micronaire.....	-.29	-.43	-.30	-.52	-.48	+.38	+.30	-.16	-.14	-.27	-.26	-.03	+.32
Fiber str. (0 gage).....	+.10	+.54	+.43	-.44	-.22	-.04	-.07	+.30	+.04	+.28	+.09	-.30	-.13
Beta Coefficients for:													
Grade index.....	-.59	+.07*	+.01*	+.15	+.13*	+.14*	+.09*	-.38	-.20	.00*	+.72	+.21	+.15*
Staple length.....	-.34	+.58	+.47	+.62	+.56	+.08*	+.06*	+.12*	+.02*	+.64	-.05*	+.17*	+.21
Micronaire.....	-.22	-.32	-.26	-.52	-.52	+.40	+.33	-.16*	-.16*	-.23	-.21	-.03*	+.33
Fiber str. (0 gage).....	+.07*	+.44	+.41	-.44	-.22	-.04*	-.08*	+.32	+.05*	+.24	+.07*	-.34	-.14*
Regression Equation:													
Constant (a).....	+29.28	-190.40	-105.57	+.67	-1.10	-11.11	+29.64	+98.59	+840.81	-170.87	+40.93	+90.73	+60.20
Regression Coef. for:													
Grade index.....	-.12	+.18	+.01	+.02	+.01	+.40	+.13	-3.38	-5.33	.00	+.66	+.12	+.12
Staple length.....	-.29	+6.46	+3.08	+.31	+.26	+.93	+.38	+4.45	+2.33	+5.94	-.17	+.41	+.70
Micronaire.....	-.42	-7.99	-3.90	-.58	-.54	+11.02	+4.46	-13.35	-39.45	-4.83	-1.78	-.16	+2.60
Fiber str. (0 gage)....	+.01	+1.06	+.59	-.05	-.02	-.10	-.10	+2.59	+1.10	+.50	+.06	-.18	-.10
Standard Error (±).....	.67	8.03	5.85	.46	.47	12.90	6.74	39.56	128.99	8.07	3.15	2.76	3.57
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH, (0 GAGE), UNIFORMITY RATIO													
Multiple Cor. Coef.....	.78	.86	.72	.70	.60	.52	.45	.49	.36	.76	.73	.34	.50
Partial Cor. Coef. for:													
Grade index.....	-.65	+.18	+.05	+.23	+.17	+.16	+.12	-.34	-.21	+.05	+.69	+.19	+.17
Staple length.....	-.43	+.71	+.51	+.60	+.52	+.08	+.07	+.12	+.02	+.65	-.06	+.15	+.21
Micronaire.....	-.23	-.57	-.39	-.59	-.53	+.33	+.24	-.20	-.08	-.39	-.26	+.01	+.28
Fiber str. (0 gage).....	+.14	+.52	+.40	-.51	-.27	-.08	-.12	+.27	+.09	+.22	+.08	-.27	-.16
Uniformity ratio.....	-.21	+.52	+.34	+.36	+.25	+.22	+.26	+.17	-.25	+.42	+.03	-.12	+.15
Beta Coefficients for:													
Grade index.....	-.61	+.11	+.04*	+.18	+.15	+.16*	+.12*	-.36	-.23	+.04*	+.72	+.20	+.17*
Staple length.....	-.34	+.59	+.47	+.63	+.56	+.08*	+.07*	+.12*	+.02*	+.64	-.04	+.17*	+.21
Micronaire.....	-.17	-.42	-.34	-.61	-.58	+.34	+.26	-.21	-.08*	-.32	-.22	+.01*	+.29
Fiber str. (0 gage).....	+.10*	+.37	+.35	-.50	-.26	-.08*	-.13*	+.29	+.10*	+.18	+.07*	-.32	-.16*
Uniformity ratio.....	-.14	+.33	+.27	+.29	+.22	+.20	+.25	+.16*	-.26	+.32	+.02*	-.12*	+.14*
Regression Equation:													
Constant (a).....	+33.51	-314.17	-164.36	-4.06	-4.53	-92.77	-21.15	-96.64	+1790.99	-269.81	+38.27	+100.67	+44.78
Regression Coef. for:													
Grade index.....	-.13	+.30	+.07	+.02	+.02	+.47	+.17	-3.22	-6.09	+.08	+.66	+.11	+.14
Staple length.....	-.30	+6.52	+3.11	+.31	+.26	+.97	+.41	+4.55	+1.86	+5.99	-.17	+.40	+.71
Micronaire.....	-.34	-10.38	-5.05	-.67	-.61	+9.42	+3.46	-17.17	-20.79	-6.76	-1.83	+.04	+2.23
Fiber str. (0 gage)....	+.02	+.89	+.51	-.05	-.03	-.22	-.17	+2.32	+2.41	+.36	+.05	-.17	-.12
Uniformity ratio.....	-.10	+3.01	+1.44	+.12	+.09	+2.02	+1.26	+4.81	-23.51	+2.44	+.07	-.25	+.38
Standard Error (±).....	.65	6.87	5.50	.43	.46	12.60	6.51	39.00	124.85	7.34	2.89	2.74	3.53

*Statistically insignificant

Table 16.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests on 304 medium staple samples, collected at triweekly intervals from selected gin points, crop of 1979

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
Mean Values for:													
Dependent variable	6.7	110	38	6.6	5.2	97	65	103	348	59	94	100	98
Grayness	1	1	1	1	1	1	1	1	1	1	1	1	1
Yellowness	3	3	3	3	3	3	3	3	3	3	3	3	3
Nonlint content (S.A.)	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
2.5% span length	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Micronaire	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Standard Deviation (±) for:													
Dependent variable	1.06	13.5	7.9	6.0	.57	14.7	7.3	44.8	134.0	11.3	4.6	2.9	4.1
Grayness	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Yellowness	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7
Nonlint content (S.A.)	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
2.5% span length	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Micronaire	.54	.54	.54	.54	.54	.54	.54	.54	.54	.54	.54	.54	.54
Simple Correlation Coef. for:													
Grayness	+.49	-.34	-.24	-.15	-.18	-.12	-.07	+.22	+.18	-.22	-.81	-.16	-.27
Yellowness	+.29	-.24	-.14	-.25	-.19	-.16	-.08	+.06	+.03	-.34	-.11	-.20	-.22
Nonlint content (S.A.)	+.78	-.24	-.15	+.07	+.03	-.36	-.24	+.38	+.32	-.15	-.46	-.10	-.23
2.5% span length	-.38	+.64	+.53	+.34	+.36	+.14	+.12	+.22	+.05	+.69	-.06	+.09	+.34
Micronaire	-.48	-.04	-.05	-.27	-.28	+.46	+.37	-.18	-.19	+.03	-.05	+.06	+.44
Multiple Cor. Data for:													
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS													
Multiple Cor. Coef.	.54	.39	.27	.28	.24	.19	.10	.23	.18	.38	.85	.24	.32
Partial Cor. Coef. for:													
Grayness	+.47	-.32	-.23	-.12	-.16	-.10	-.06	+.22	+.18	-.18	-.84	-.13	-.24
Yellowness	+.26	-.21	-.11	-.23	-.17	-.14	-.07	+.03	+.01	-.32	+.39	-.19	-.19
Beta Coefficients for:													
Grayness	+.46	-.31	-.23	-.12*	-.16*	-.10*	-.06*	+.22	+.18	-.17	-.85	-.13*	-.24
Yellowness	+.23	-.20	-.11*	-.23	-.16*	-.14*	-.07*	+.03*	+.01*	-.32	+.23	-.19	-.18
Regression Equation:													
Constant (a)	+4.88	+128.67	+44.64	+7.34	+5.80	+109.20	+68.76	+84.43	+313.09	+79.43	+93.96	+103.54	+103.25
Regression Coef. for:													
Grayness	+.47	-4.07	-1.75	-.07	-.09	-1.47	-.46	+9.65	+23.59	-1.89	-3.80	-.37	-.96
Yellowness	+.36	-3.98	-1.34	-.21	-.14	-3.19	-.81	+1.76	+1.27	-5.40	+1.59	-.82	-1.13
Standard Error (±)	.89	12.39	7.66	.57	.55	14.46	7.26	43.65	131.78	10.40	2.45	2.83	3.87
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.)													
Multiple Cor. Coef.	.82	.39	.27	.33	.29	.40	.26	.38	.32	.38	.85	.24	.34
Partial Cor. Coef. for:													
Grayness	+.10	-.24	-.18	-.20	-.22	+.11	+.07	+.02	+.01	-.13	-.79	-.10	-.15
Yellowness	+.37	-.21	-.11	-.24	-.17	-.15	-.08	+.03	+.01	-.32	+.39	-.19	-.19
Nonlint (S.A.)	+.73	-.07	-.03	+.19	+.16	-.36	-.24	+.32	+.27	-.05	-.06	-.03	-.11
Beta Coefficients for:													
Grayness	+.07*	-.27	-.21	-.23	-.25	+.12*	+.08*	+.02*	+.01*	-.15*	-.83	-.11*	-.17*
Yellowness	+.23	-.20	-.11*	-.23	-.16*	-.15*	-.07*	+.03*	+.01*	-.32	+.23	-.19	-.18
Nonlint (S.A.)	+.73	-.08*	-.03*	+.21	+.18*	-.42	-.28	+.37	+.31	-.05*	-.04*	-.03*	-.12*
Regression Equation:													
Constant (a)	+3.28	+130.87	+45.22	+7.08	+5.59	+122.00	+72.99	+50.16	+226.06	+80.59	+94.31	+103.72	+104.29
Regression Coef. for:													
Grayness	+.07	-3.51	-1.61	-.13	-.14	+1.74	+.60	+1.06	+1.77	-1.60	-3.72	-.32	-.69
Yellowness	+.37	-3.99	-1.34	-.21	-.14	-3.23	-.82	+1.87	+1.54	-5.41	+1.59	-.82	-1.14
Nonlint (S.A.)	+.72	-.98	-.26	+.12	+.09	-5.72	-1.89	+15.30	+38.87	-.52	-.15	-.08	-.47
Standard Error (±)	.60	12.36	7.66	.56	.55	13.50	7.05	41.38	126.97	10.39	2.44	2.83	3.85

*Statistically insignificant

Table 16.--Continued

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH													
Multiple Cor. Coef.	.84	.70	.59	.42	.42	.40	.26	.52	.34	.71	.85	.24	.41
Partial Cor. Coef. for:													
Grayness	+.13	-.25	-.15	-.16	-.17	+.11	+.08	+.11	+.03	-.10	-.80	-.10	-.14
Yellowness	+.20	+.17	+.20	-.08	+.02	-.12	-.03	+.22	+.07	+.04	+.29	-.17	-.04
Nonlint (S.A.)	+.74	-.01	+.03	+.22	+.20	-.36	-.23	+.37	+.28	+.03	-.07	-.03	-.09
2.5% span length	-.30	+.62	+.54	+.27	+.33	+.02	+.06	+.37	+.12	+.64	-.14	-.03	+.25
Beta Coefficients for:													
Grayness	+.08*	-.22	-.15*	-.18*	-.19*	+.12*	+.09*	+.11*	+.03*	-.09*	-.84	-.12*	-.15*
Yellowness	+.13	+.14*	+.20	-.08*	+.02*	-.13*	-.04*	+.23	+.07*	+.03*	+.19	-.20	-.04*
Nonlint (S.A.)	+.71	-.01*	+.03*	+.24	+.22	-.41	-.27	+.41	+.33	+.02*	-.04*	-.03*	-.09*
2.5% span length	-.20	+.67	+.61	+.30	+.37	+.03*	+.07*	+.40	+.13*	+.69	-.08*	-.03*	+.28
Regression Equation:													
Constant (a)	+9.52	-134.49	-98.11	+1.76	-.59	+110.98	+57.45	-485.83	-297.82	-149.49	+105.73	+106.27	+70.63
Regression Coef. for:													
Grayness	+.09	-2.94	-1.15	-.10	-.10	+1.78	+.65	+5.00	+4.20	-.96	-3.76	-.33	-.60
Yellowness	+.20	+2.87	+2.36	-.07	+.02	-2.95	-.42	+15.64	+15.05	+.54	+1.29	-.89	-.27
Nonlint (S.A.)	+.70	-.11	+.22	+.13	+.12	-5.68	-1.84	+17.06	+40.59	+.24	-.19	-.09	-.36
2.5% span length	-5.17	+218.47	+117.83	+4.36	+5.07	+9.06	+12.78	+438.30	+429.91	+189.28	-9.39	-2.09	+27.70
Standard Error (±)	.58	9.67	6.43	.54	.52	13.50	7.04	38.39	126.07	7.97	2.42	2.83	3.72
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH, MICRONAIRE													
Multiple Cor. Coef.	.84	.76	.63	.56	.58	.50	.38	.53	.35	.74	.85	.24	.54
Partial Cor. Coef. for:													
Grayness	+.17	-.13	-.05	-.02	-.02	.00	-.02	+.14	+.06	+.01	-.78	-.09	-.26
Yellowness	+.16	+.09	+.15	-.17	-.07	-.06	+.02	+.20	+.04	-.03	+.28	-.17	+.04
Nonlint (S.A.)	+.66	-.22	-.12	.00	-.04	-.18	-.07	+.28	+.20	-.14	-.08	-.03	+.12
2.5% span length	-.26	+.69	+.59	+.37	+.43	-.05	.00	+.39	+.14	+.69	-.12	-.02	+.18
Micronaire	-.18	-.41	-.30	-.41	-.44	+.33	+.29	-.12	-.11	-.33	-.04	.00	+.39
Beta Coefficients for:													
Grayness	+.12	-.11*	-.05*	-.02*	-.02*	.00*	-.02*	+.16*	+.07*	+.01*	-.83	-.11*	-.29
Yellowness	+.10*	+.07*	+.14*	-.17*	-.07*	-.06*	+.03*	+.21	+.05*	-.02*	+.18	-.20*	+.04*
Nonlint (S.A.)	+.65	-.20	-.13*	.00*	-.04*	-.22	-.09*	+.34	+.26	-.13*	-.06*	-.03*	+.13*
2.5% span length	-.18	+.75	+.68	+.40	+.47	-.05*	.00*	+.43	+.16*	+.76	-.08*	-.03*	+.19
Micronaire	-.12	-.36	-.30	-.46	-.49	+.37	+.34	-.12*	-.13*	-.29	-.02*	.00*	+.43
Regression Equation:													
Constant (a)	+10.05	-113.83	-88.15	+2.92	+.57	+87.65	+46.94	-462.49	-225.99	-135.67	+106.21	+106.32	+63.17
Regression Coef. for:													
Grayness	+.12	-1.43	-.40	-.01	-.01	+.03	-.13	+6.91	+9.75	+.06	-3.72	-.33	-1.15
Yellowness	+.17	+1.46	+1.68	-.15	-.06	-1.35	+.30	+14.02	+10.10	-.41	+1.26	-.89	+.24
Nonlint (S.A.)	+.64	-2.51	-.95	.00	-.02	-2.96	-.61	+14.31	+32.18	-1.37	-.25	-.09	+.51
2.5% span length	-4.53	+243.44	+129.89	+5.76	+6.48	-19.19	+.05	+466.80	+517.15	+206.00	-8.82	-2.04	+18.68
Micronaire	-.23	-9.05	-4.37	-.51	-.51	+10.23	+4.61	-10.32	-31.60	-6.06	-.21	-.02	+3.27
Standard Error (±)	.57	8.82	6.14	.49	.46	12.72	6.74	38.13	125.30	7.52	2.42	2.83	3.43

*Statistically insignificant

Table 17.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurement with processing tests performed on 304 medium staple samples, collected at triweekly intervals from selected gin points, crop of 1979

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn Neps		Spinning Potential	Color of 22s yarn		
		Coarse	Fine	Coarse	Fine	Coarse	Fine	Coarse	Fine		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
Mean Values for:													
Dependent variable	6.7	110	38	6.6	5.2	97	65	103	348	59	94	100	98
2.5% span length	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Micronaire	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Fiber str. (1/8" gage)	23	23	23	23	23	23	23	23	23	23	23	23	23
Uniformity ratio	45	45	45	45	45	45	45	45	45	45	45	45	45
Elongation (1/8" gage)	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
Standard Deviation (±) for:													
Dependent variable	1.06	13.5	7.9	.60	.57	14.7	7.3	44.8	134.0	11.3	4.6	2.9	4.1
2.5% span length	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Micronaire	.54	.54	.54	.54	.54	.54	.54	.54	.54	.54	.54	.54	.54
Fiber str. (1/8" gage)	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Uniformity ratio	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Elongation (1/8" gage)	.79	.79	.79	.79	.79	.79	.79	.79	.79	.79	.79	.79	.79
Simple Correlation Coef. for:													
2.5% span length	-.38	+.64	+.53	+.34	+.36	+.14	+.12	+.22	+.05	+.69	-.06	+.09	+.34
Micronaire	-.48	-.04	-.05	-.27	-.28	+.46	+.37	-.18	-.19	+.03	-.05	+.06	+.44
Fiber str. (1/8" gage)	-.24	+.77	+.67	+.17	+.35	-.06	-.04	+.35	+.10	+.63	+.19	-.18	-.08
Uniformity ratio	-.24	+.37	+.31	+.14	+.10	+.30	+.31	+.16	-.27	+.36	-.01	-.15	+.22
Elongation (1/8" gage)	+.05	-.15	-.13	+.58	+.50	-.04	+.03	-.07	+.10	-.06	-.09	+.15	-.04
Multiple Cor. Data for:													
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE													
Multiple Cor. Coef.	.53	.69	.59	.53	.56	.46	.37	.35	.23	.73	.07	.10	.48
Partial Cor. Coef. for:													
2.5% span length	-.26	+.69	+.59	+.48	+.51	-.03	-.01	+.31	+.12	+.73	-.05	+.08	+.22
Micronaire	-.40	-.35	-.29	-.44	-.46	+.45	+.35	-.28	-.22	-.30	-.03	+.03	+.37
Beta Coefficients for:													
2.5% span length	-.24	+.74	+.63	+.49	+.52	-.03*	-.01*	+.32	+.13*	+.77	-.05*	+.08*	+.21
Micronaire	-.40	-.29	-.26	-.44	-.46	+.47	+.37	-.29	-.24	-.23	-.04*	+.04*	+.37
Regression Equation:													
Constant (a)	+16.72	-121.49	-77.59	+.87	-.54	+52.61	+46.00	-180.64	+141.90	-151.57	+101.80	+93.32	+63.57
Regression Coef. for:													
2.5% span length	-6.16	+239.58	+120.46	+7.07	+7.14	-9.37	-1.70	+352.20	+416.96	+211.13	-5.67	+5.68	+20.96
Micronaire	-.78	-7.28	-3.89	-.48	-.49	+12.88	+5.06	-24.26	-59.40	-4.88	-.30	+.19	+2.78
Standard Error (±)	.89	9.72	6.42	.50	.47	13.05	6.78	41.90	130.43	7.72	4.58	2.90	3.58
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE FIBER STR. (1/8" GAGE)													
Multiple Cor. Coef.	.56	.85	.74	.54	.58	.46	.37	.42	.23	.80	.25	.26	.52
Partial Cor. Coef. for:													
2.5% span length	-.13	+.58	+.41	+.46	+.41	-.01	.00	+.17	+.09	+.62	-.16	+.18	+.29
Micronaire	-.44	-.28	-.20	-.44	-.43	+.43	+.34	-.23	.21	-.22	.02	-.02	+.32
Fiber str. (1/8" gage)	-.21	+.69	+.55	-.09	+.14	-.04	-.02	+.24	.04	+.48	+.24	-.24	-.21
Beta Coefficients for:													
2.5% span length	-.14*	+.44	+.37	+.53	+.45	-.01*	.00*	+.19	+.11*	+.58	-.19*	+.22	+.32
Micronaire	-.44	-.16	-.15	-.46	-.43	+.46	+.37	-.23	-.23	-.15	+.03*	-.02*	+.32
Fiber Str. (1/8" gage)	-.21	+.57	+.50	-.09*	+.14*	-.04*	-.02*	+.26	+.04*	+.37	+.28	-.27	-.21
Regression Equation:													
Constant (a)	+16.92	-128.59	-81.27	+.91	-.62	+53.15	+46.17	-191.34	+136.36	-155.45	+100.63	+94.05	+64.34
Regression Coef. for:													
2.5% span length	-3.47	+144.64	+71.13	+7.70	+6.18	-2.17	+.44	+209.01	+342.82	+159.16	-21.36	+15.42	+31.34
Micronaire	-.87	-4.08	-2.23	-.51	-.45	+12.63	+4.98	-19.44	-56.90	-3.13	+.23	-.13	+2.43
Fiber str. (1/8" gage)	-.12	+4.16	+2.16	-.03	+.04	-.32	-.09	+6.28	+3.25	+2.28	+.69	-.43	-.46
Standard Error (±)	.87	6.99	5.38	.50	.47	13.04	6.77	40.65	130.32	6.78	4.44	2.82	3.50

*Statistically insignificant

Table 17.--Continued.

Statistical Items	Dependent Variables											
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE FIBER STR. (1/8" GAGE), UNIFORMITY RATIO													
Multiple Cor. Coef.....	.56	.88	.75	.58	.59	.51	.44	.44	.35	.82	.26	.28	.54
Partial Cor. Coef. for:													
2.5% span length.....	-.12	+.61	+.42	+.41	+.39	-.06	-.06	+.15	+.16	+.65	-.14	+.20	+.24
Micronaire.....	-.41	-.38	-.26	-.49	-.45	+.37	+.27	-.26	-.13	-.32	+.04	+.01	+.27
Fiber str. (1/8" gage)....	-.19	+.66	+.50	-.16	+.10	-.11	-.10	+.20	+.12	+.41	+.25	-.20	-.25
Uniformity ratio.....	-.05	+.37	+.23	+.24	+.13	+.23	+.26	+.14	-.27	+.34	-.07	-.12	+.17
Beta Coefficients for:													
2.5% span length.....	-.13*	+.45	+.37	+.46	+.42	-.07*	-.07*	+.17*	+.18*	+.59	-.17*	+.25	+.26
Micronaire.....	-.43	-.23	-.20	-.53	-.47	+.40	+.29	-.28	-.14*	-.22	+.05*	+.01*	+.27
Fiber str. (1/8" gage)....	-.19	+.50	+.45	-.16*	+.10*	-.11*	-.11*	+.21	+.14*	+.30	+.30	-.23	-.26
Uniformity ratio.....	-.05*	+.21	+.17	+.22	+.12*	+.22	+.26	+.14*	-.28	+.22	-.07*	-.13*	+.16
Regression Equation:													
Constant (a).....	+17.80	-200.02	-113.96	-1.15	-1.89	-.79	+14.21	-309.66	+77.35	-219.22	+106.05	+100.48	+54.38
Regression Coef. for:													
2.5% span length.....	-3.21	+147.88	+71.52	+6.66	+5.85	-23.89	-12.24	+597.42	+162.12	-18.98	-18.98	+17.62	+25.92
Micronaire.....	-.84	-5.70	-3.00	-.58	-.49	+10.78	+3.89	-23.00	-35.17	-4.57	+.42	+.08	+2.05
Fiber str. (1/8" gage)..	-.11	+3.67	+1.93	-.05	+.03	-.88	-.42	+5.20	+9.84	+1.84	+.75	-.36	-.57
Uniformity ratio.....	-.03	+1.92	+.91	+.09	+.05	+2.20	+1.30	+4.23	-25.83	+1.71	-.23	-.25	+.45
Standard Error (±).....	.87	6.50	5.24	.49	.46	12.70	6.55	40.25	125.66	6.38	4.43	2.80	3.45
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE FIBER STR. (1/8" GAGE), UNIFORMITY RATIO, ELONGATION (1/8" GAGE)													
Multiple Cor. Coef.....	.56	.88	.76	.76	.75	.51	.45	.45	.36	.83	.26	.30	.54
Partial Cor. Coef. for:													
2.5% span length.....	-.11	+.64	+.44	+.40	+.37	-.06	-.07	+.16	+.14	+.66	-.13	+.19	+.24
Micronaire.....	-.41	-.42	-.28	-.47	-.41	+.37	+.28	-.27	-.11	-.33	+.03	+.04	+.25
Fiber str. (1/8" gage)....	-.20	+.63	+.47	-.02	+.27	-.10	-.08	+.17	+.14	+.38	+.24	-.17	-.25
Uniformity ratio.....	-.05	+.38	+.24	+.27	+.13	+.22	+.25	+.14	-.27	+.34	-.07	-.12	+.17
Elongation (1/8" gage)....	-.05	-.23	-.14	+.61	+.58	+.02	+.08	-.09	+.10	-.09	-.04	+.11	-.05
Beta Coefficients for:													
2.5% span length.....	-.12*	+.48	+.39	+.36	+.33	-.07*	-.08*	+.18*	+.17*	+.61	-.16*	+.23	+.27
Micronaire.....	-.44	-.26	-.23	-.40	-.35	+.40	+.31	-.30	-.12*	-.23	+.04*	+.04*	+.26
Fiber Str. (1/8" gage)....	-.20	+.47	+.42	-.02*	+.23	-.11*	-.09*	+.19	+.16*	+.29	+.29	-.20*	-.27
Uniformity ratio.....	-.04*	+.21	+.17	+.20	+.09*	+.22	+.26	+.14*	-.29	+.23	-.07*	-.13*	+.16
Elongation (1/8" gage)....	-.04*	-.12	-.10*	+.52	+.49	+.01*	+.08*	-.08*	+.09*	-.05*	-.04*	+.11*	-.04*
Regression Equation:													
Constant (a).....	+18.10	-189.55	-108.82	-3.39	-3.84	-2.24	+10.21	-283.55	+680.43	-215.12	+107.35	+98.16	+55.59
Regression Coef. for:													
2.5% span length.....	-3.01	+155.96	+75.42	+5.19	+4.50	-24.85	-14.91	+198.54	+537.39	+165.28	-18.11	+16.05	+26.71
Micronaire.....	-.86	-6.41	-3.34	-.44	-.37	+10.88	+4.15	-24.69	-29.46	-4.85	+.33	+.23	+1.97
Fiber str. (1/8" gage)..	-.12	+3.44	+1.82	-.01	+.07	-.85	-.34	+4.65	+11.69	+1.75	+.72	-.32	-.59
Uniformity ratio.....	-.03	+1.98	+.94	+.08	+.04	+2.19	+1.28	+4.36	-26.27	+1.73	-.22	-.26	+.46
Elongation (1/8" gage)..	-.05	-1.96	-.96	+.39	+.35	+.25	+.70	-4.67	+15.80	-.77	-.23	+.41	-.21
Standard Error (±).....	.87	6.33	5.18	.38	.38	12.70	6.53	40.09	125.08	6.36	4.42	2.78	3.45

*Statistically insignificant.

Table 18.--Cotton: Results of multiple correlation analyses for the relationship of classification and supplemental fiber test measurements with processing tests performed on 23 long staple samples, carded yarns, collected at triweekly intervals from selected gin points, crop of 1979

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
Mean Values for:													
Dependent variable.....	8.1	118	42	6.4	5.3	113	81	27	175	71	90	100	97
Grade index.....	92	92	92	92	92	92	92	92	92	92	92	92	92
Staple length.....	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1
Micronaire.....	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Fiber strength (0 gage)....	88	88	88	88	88	88	88	88	88	88	88	88	88
Uniformity ratio.....	44	44	44	44	44	44	44	44	44	44	44	44	44
Standard Deivations (±) for:													
Dependent variable.....	.96	13.0	6.5	.39	.48	10.6	13.9	9.9	71.6	10.9	5.1	2.6	3.0
Grade index.....	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
Staple length.....	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85
Micronaire.....	.42	.42	.42	.42	.42	.42	.42	.42	.42	.42	.42	.42	.42
Fiber strength (0 gage)....	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Uniformity ratio.....	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95
Simple Correlation Coef. for:													
Grade index.....	-.73	+.41	+.42	+.07	+.01	-.16	+.05	-.05	+.02	+.34	+.59	+.26	+.48
Staple length.....	.00	+.63	+.57	+.47	+.22	+.02	-.09	+.40	+.12	+.56	+.45	+.06	+.34
Micronaire.....	+.01	-.61	-.64	-.39	-.30	+.62	+.63	-.63	-.43	-.59	-.66	-.49	-.18
Fiber strength (0 gage)....	-.46	+.76	+.73	+.30	+.28	-.25	-.03	+.36	+.04	+.60	+.69	+.14	+.47
Uniformity ratio.....	-.27	+.42	+.38	+.42	+.48	+.06	-.01	+.12	-.24	+.35	+.34	+.03	+.47
Multiple Cor. Data for:													
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH													
Multiple Cor. Coef.....	.75	.69	.65	.47	.22	.17	.11	.43	.12	.60	.67	.26	.54
Partial Cor. Coef. for:													
Grade index.....	-.75	+.37	+.37	-.03	-.04	-.17	+.07	-.15	-.01	+.26	+.56	+.25	+.45
Staple length.....	+.25	+.61	+.54	+.46	+.22	+.06	-.10	+.42	+.12	+.52	+.41	.00	+.28
Beta Coefficients for:													
Grade index.....	-.77	+.29*	+.31*	-.03*	-.04*	-.18*	+.07*	-.14*	-.01*	+.23*	+.52	+.26*	+.43*
Staple length.....	+.17*	+.57	+.51	+.47*	+.23*	+.06*	-.10*	+.43*	+.12*	+.51*	+.34*	.00*	+.25*
Regression Equation:													
Constant (a).....	+12.99	-255.72	-129.59	-1.29	+.97	+116.76	+125.50	-133.48	-172.60	-203.42	-25.90	+89.18	+44.48
Regression Coef. for:													
Grade index.....	-.13	+.66	+.35	.00	.00	-.33	+.18	-.25	-.13	+.43	+.46	+.12	+.22
Staple length.....	+.19	+8.66	+3.86	+.22	+.13	+.73	-1.69	+5.07	+9.97	+6.51	+2.04	.00	+.87
Standard error (±).....	.63	9.39	4.93	.35	.46	10.47	13.83	9.00	71.15	8.75	3.79	2.55	2.49
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE													
Multiple Cor. Coef.....	.77	.77	.75	.52	.33	.70	.70	.70	.45	.69	.79	.54	.55
Partial Cor. Coef. for:													
Grade index.....	-.77	+.30	+.30	-.09	-.09	-.02	+.30	-.34	-.12	+.19	+.55	+.17	+.45
Staple length.....	+.14	+.51	+.42	+.37	+.12	+.40	+.24	+.24	-.07	+.41	+.23	-.21	+.28
Micronaire.....	-.24	-.46	-.49	-.25	-.25	+.69	+.70	-.61	-.44	-.44	-.56	-.49	+.07
Beta Coefficients for:													
Grade index.....	-.81	+.22*	+.22*	-.08*	-.09*	-.02*	+.24*	-.27*	-.11*	+.14*	+.42*	+.15*	+.44*
Staple length.....	+.10*	+.42*	+.34*	+.38*	+.12*	+.35*	+.20*	+.19*	-.07*	+.36*	+.16*	-.20*	+.27*
Micronaire.....	-.18*	-.37*	-.43*	-.25*	-.27*	+.77	+.78	-.63	-.49*	-.40*	-.47*	-.53*	+.07*
Regression Equation:													
Constant (a).....	+17.91	-114.93	+49.42	+1.55	+4.74	-120.32	-191.90	+48.18	+850.05	-77.20	+44.32	+129.94	+38.80
Regression Coef. for:													
Grade index.....	-.14	+.49	+.25	-.01	-.01	-.03	+.57	-.47	-1.39	+.27	+.38	+.07	+.23
Staple length.....	+.12	+6.49	+2.63	+.18	+.07	+4.38	+3.20	+2.27	-5.78	+4.56	+.96	-.63	+.96
Micronaire.....	-.40	-11.40	-6.49	-.23	-.31	+19.20	+25.70	-14.71	-82.80	-10.22	-5.69	-3.30	+.46
Standard Error (±).....	.61	8.36	4.29	.34	.45	7.61	9.92	7.11	64.02	7.86	3.13	2.23	2.49

*Statistically insignificant

Table 18.--Continued

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Ibs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH (O GAGE)													
Multiple Cor. Coef.....	.80	.86	.83	.52	.38	.70	.72	.72	.47	.74	.83	.55	.58
Partial Coef. for:													
Grade index.....	-.60	+.03	+.06	-.13	-.18	+.02	+.12	-.40	-.02	+.01	+.41	+.22	+.30
Staple length.....	+.25	+.44	+.32	+.33	+.05	+.41	+.17	+.17	-.02	+.32	+.11	-.16	+.21
Micronaire.....	-.33	-.39	-.44	-.22	-.19	+.67	+.72	-.58	-.45	-.38	-.52	-.50	+.13
Fiber str. (O gage).....	-.35	+.60	+.54	+.10	+.20	-.09	+.23	+.23	-.14	+.35	+.40	-.14	+.24
Beta Coefficients for:													
Grade index.....	-.61	+.02*	+.04*	-.13*	-.21*	+.02*	+.11*	-.36*	-.03*	+.01*	+.29*	+.22*	+.31*
Staple length.....	+.18*	+.29*	+.22*	+.35*	+.06*	+.37*	+.14*	+.14*	-.02*	+.27*	+.07*	-.16*	+.21*
Micronaire.....	-.25*	-.26*	-.32*	-.22*	-.21*	+.75	+.83	-.58	-.53*	-.32*	-.40*	-.57*	+.13*
Fiber str. (O gage).....	-.30*	+.51	+.47*	+.11*	+.25*	-.08*	+.21*	+.22*	-.17*	+.33*	+.32*	-.16*	+.26*
Regression Equation:													
Constant (a).....	+17.51	-135.13	-58.75	+1.49	+4.54	-118.12	-190.76	+43.10	+862.88	-87.13	+39.37	+130.84	37.91
Regression Coef. for:													
Grade index.....	-.10	+.05	+.04	-.01	-.02	+.03	+.26	-.63	-.32	+.02	+.26	+.10	+.16
Staple length.....	+.21	+4.45	+1.68	+.16	+.03	+4.65	+2.28	+1.59	-2.05	+3.45	+.45	-.50	+.72
Micronaire.....	-.55	-7.83	-4.83	-.21	-.24	+18.72	+27.31	-13.53	-89.32	-8.27	-4.79	-3.53	+.88
Fiber str. (O gage)....	-.06	+1.37	+.64	+.01	+.02	-.18	+.62	+.45	-2.50	+.75	+.34	-.09	+.16
Standard Error (±).....	.57	6.69	3.60	.33	.44	7.58	9.66	6.91	63.36	7.37	2.87	2.21	2.42
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH, (O GAGE), UNIFORMITY RATIO													
Multiple Cor. Coef.....	.86	.90	.86	.61	.56	.72	.73	.72	.58	.76	.85	.55	.72
Partial Cor. Coef. for:													
Grade index.....	-.66	+.06	+.08	-.12	-.19	+.03	+.13	-.40	-.04	+.02	+.44	+.21	+.36
Staple length.....	+.32	+.46	+.32	+.33	+.02	+.40	+.16	+.17	.00	+.32	+.09	-.16	+.21
Micronaire.....	-.44	-.36	-.41	-.17	-.14	+.69	+.73	-.58	-.53	-.35	-.50	-.50	+.25
Fiber str. (O gage).....	-.40	+.65	+.57	+.10	+.22	-.09	+.23	+.23	-.15	+.36	+.42	-.14	+.27
Uniformity ratio.....	-.50	+.51	+.40	+.37	+.44	+.26	+.18	-.06	-.39	+.30	+.34	-.07	+.53
Beta Coefficients for:													
Grade index.....	-.62	+.03*	+.05*	-.12*	-.19*	+.02*	+.11*	-.37*	-.04*	+.02*	+.30*	+.22*	+.33*
Staple length.....	+.21*	+.27*	+.20*	+.33*	+.02*	+.36*	+.13*	+.14*	.00*	+.25*	+.06*	-.16*	+.17*
Micronaire.....	-.30*	-.20*	-.27*	-.16*	-.13*	+.78	+.86	-.59*	-.60*	-.28*	-.36*	-.58*	+.21*
Fiber str. (O gage).....	-.29*	+.50	+.47*	+.10*	+.24*	-.08*	+.21*	+.22*	-.16*	+.33*	+.32*	-.16*	+.25*
Uniformity ratio.....	-.31*	+.27*	+.23*	+.32*	+.42*	+.19*	+.13*	-.04*	-.36*	+.21*	+.20*	-.06*	+.44*
Regression Equation:													
Constant (a).....	+30.80	-292.58	-125.39	-4.22	-4.50	-208.63	-271.75	+63.22	+2015.38	-189.72	-6.21	+138.22	-21.17
Regression Coef. for:													
Grade index.....	-.10	+.07	+.05	-.01	-.02	+.04	+.28	-.64	-.49	+.04	+.27	+.10	+.17
Staple length.....	+.23	+4.11	+1.54	+.15	+.01	+4.46	+2.11	+1.63	+.39	+3.23	+.35	-.48	+.59
Micronaire.....	-.69	-6.25	-4.17	-.15	-.15	+19.63	+28.11	-13.73	-100.81	-7.24	-4.33	-3.60	+1.47
Fiber str. (O gage)....	-.06	+1.36	+.63	+.01	+.02	-.19	+.61	+.45	-2.42	+.74	+.34	-.09	+.16
Uniformity ratio.....	-.31	+3.67	+1.55	+.13	+.21	+2.11	+1.89	-.47	-26.87	+2.39	+1.06	-.17	+1.38
Standard Error (±).....	.50	5.76	3.30	.31	.40	7.32	9.50	6.90	58.30	7.03	2.69	2.20	2.06

*Statistically insignificant

Table 19.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 23 long staple samples, carded yarn, collected at triweekly intervals from selected gin points, crop of 1979

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
Mean Values for:													
Dependent variable	8.1	118	42	6.4	5.3	113	81	27	175	71	90	100	97
Grayness	2	2	2	2	2	2	2	2	2	2	2	2	2
Yellowness	3	3	3	3	3	3	3	3	3	3	3	3	3
Nonlint content (S.A.)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
2.5% span length	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Micronaire	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Standard Deviation (±) for:													
Dependent variable	.96	13.0	6.5	.39	.48	10.6	13.9	9.9	71.6	10.9	5.1	2.6	3.0
Grayness	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Yellowness	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6
Nonlint content (S.A.)	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
2.5% span length	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
Micronaire	.42	.42	.42	.42	.42	.42	.42	.42	.42	.42	.42	.42	.42
Simple Correlation Coef. for:													
Grayness	+.52	-.84	-.88	-.49	-.43	-.20	-.10	-.23	-.15	-.77	-.91	-.40	-.64
Yellowness	-.02	-.21	-.25	-.61	-.54	-.16	-.11	+.14	+.25	-.32	-.13	-.28	+.01
Nonlint content (S.A.)	+.93	-.37	-.35	-.30	-.22	-.19	-.28	+.22	+.41	-.28	-.41	-.23	-.39
2.5% span length	+.06	+.48	+.40	+.58	+.58	+.33	+.06	+.13	-.32	+.46	+.13	-.12	+.13
Micronaire	+.01	-.61	-.64	-.39	-.30	+.62	+.63	-.63	-.43	-.59	-.66	-.49	-.18
Multiple Cor. Data for:													
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS													
Multiple Cor. Coef.	.53	.84	.88	.72	.64	.28	.17	.30	.32	.79	.91	.45	.66
Partial Cor. Coef. for:													
Grayness	+.53	-.84	-.87	-.48	-.41	+.24	+.13	-.27	-.21	-.76	-.91	-.37	-.66
Yellowness	-.13	-.11	-.20	-.61	-.52	-.21	-.13	+.19	+.29	-.29	+.07	-.24	+.17
Beta Coefficients for:													
Grayness	+.54*	-.83	-.86	-.39*	-.35*	+.24*	+.13*	-.27*	-.20*	-.74	-.91	-.36*	-.67
Yellowness	-.12*	-.06*	-.10*	-.54*	-.47*	-.21*	-.13*	+.19*	+.29*	-.19*	+.03*	-.22*	+.13*
Regression Equation:													
Constant (a)	+7.85	+140.29	+54.92	+7.94	+6.89	+121.76	+89.42	+20.08	+77.72	+96.39	+97.35	+105.18	+97.56
Regression Coef. for:													
Grayness	+.42	-8.83	-4.55	-.12	-.14	+2.05	+1.45	-2.18	-11.86	-6.56	-3.83	-.77	-1.62
Yellowness	-.20	-1.36	-1.14	-.38	-.49	-3.90	-3.35	+3.35	+36.92	-3.64	+.29	-1.04	+.69
Standard Error (±)	.81	6.95	3.04	.27	.37	10.20	13.72	9.48	67.85	6.67	2.15	2.36	2.24
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.)													
Multiple Cor. Coef.	.93	.85	.89	.73	.64	.48	.46	.53	.71	.80	.91	.45	.66
Partial Cor. Coef. for:													
Grayness	+.05	-.81	-.87	-.35	-.32	+.42	+.36	-.48	-.59	-.75	-.89	-.29	-.57
Yellowness	-.02	-.08	-.17	-.62	-.52	-.28	-.21	+.28	+.46	-.26	+.11	-.24	+.16
Nonlint (S.A.)	+.90	+.18	+.30	-.17	-.06	-.41	-.43	+.46	+.66	+.23	+.25	-.05	-.04
Beta Coefficients for:													
Grayness	+.02*	-.90	-.96	-.31*	-.32*	+.50*	-.42*	-.57*	-.63	-.83	-.99	-.32*	-.65
Yellowness	-.01*	-.04*	-.08*	-.56	-.48*	-.26*	-.20*	+.25*	+.38*	-.17*	+.05*	-.23*	+.12*
Nonlint (S.A.)	+.92	+.11*	+.17*	-.14*	-.06*	-.47*	-.51*	+.53*	+.76	+.17*	+.13*	-.06*	-.04*
Regression Equation:													
Constant (a)	+5.19	+135.84	+51.62	+8.11	+6.98	+136.83	+110.85	+4.08	-86.15	+90.76	+95.37	+105.63	+97.89
Regression Coef. for:													
Grayness	+.02	-9.51	-5.05	-.10	-.12	+4.35	+4.72	-4.62	-86.91	-7.42	-4.13	-.70	-1.57
Yellowness	-.01	-1.04	-.90	-.39	-.41	-4.98	-4.88	+4.49	+48.61	-3.24	+.43	-1.07	+.66
Nonlint (S.A.)	+.87	+1.45	+1.08	-.05	-.03	-4.93	-7.01	+5.23	+53.60	+1.84	+.65	-.15	-.11
Standard Error (±)	.35	6.84	2.90	.27	.37	9.32	12.39	8.40	50.72	6.49	2.08	2.35	2.24

*Statistically insignificant.

Table 19. Continued

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH													
Multiple Cor. Coef.....	.93	.91	.91	.79	.72	.65	.47	.54	.82	.84	.92	.57	.66
Partial Cor. Coef. for:													
Grayness.....	+.02	-.87	-.89	-.41	-.37	+.30	+.34	-.49	-.24	-.78	-.88	-.30	-.58
Yellowness.....	-.12	+.27	+.06	-.47	-.34	-.03	-.12	+.30	+.22	-.06	+.02	-.40	+.19
Nonlint (S.A.).....	+.91	+.02	+.21	-.30	-.19	-.54	-.45	+.43	+.78	+.14	+.28	+.05	-.07
2.5% span length.....	-.22	+.61	+.43	+.46	+.44	+.49	+.14	+.12	-.59	+.39	-.16	-.39	+.11
Beta Coefficients for:													
Grayness.....	+.01*	-.89	-.96	-.34*	-.34*	+.31*	+.39*	-.57*	-.22*	-.84	-.96	-.32*	-.65
Yellowness.....	-.05*	+.13*	+.03*	-.38*	-.29*	-.02*	-.13*	+.31*	+.15*	-.04*	+.01*	-.42*	+.17*
Nonlint (S.A.).....	+.94	+.01*	+.11*	-.24*	-.16*	-.60*	-.55*	+.50*	+.89	+.10*	+.15*	+.05*	-.06*
2.5% span length.....	-.10*	+.39	+.23*	+.38*	+.41*	+.52*	+.15*	+.12*	-.50	+.28*	-.08*	-.42*	+.10*
Regression Equation:													
Constant (a).....	+9.64	-110.50	-21.26	+.91	-2.47	-128.48	+8.43	-53.20	+1620.67	-57.90	+114.22	+160.00	+82.84
Regression Coef. for:													
Grayness.....	+.01	-9.46	-5.06	-.11	-.13	+2.69	+4.47	-4.64	-12.84	-7.46	-4.02	-.69	-1.58
Yellowness.....	-.08	+3.13	+.33	-.27	-.25	-.43	-3.14	+5.46	+18.87	-.72	+.11	-1.99	+.92
Nonlint (S.A.).....	+.89	+.15	+.70	-.09	-.08	-6.35	-7.55	+4.93	+62.88	+1.06	+.75	+.14	-.19
2.5% span length.....	-3.75	+208.39	+61.69	+6.11	+8.02	+227.39	+87.12	+48.51	-1486.05	+125.87	-16.16	-46.03	+12.74
Standard Error (±).....	.34	5.41	2.62	.24	.33	8.12	12.26	8.35	40.99	5.98	2.05	2.16	2.22
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH, MICRONAIRE													
Multiple Cor. Coef.....	.94	.91	.92	.80	.72	.84	.78	.75	.84	.84	.92	.66	.72
Partial Cor. Coef. for:													
Grayness.....	+.12	-.75	-.79	-.19	-.26	-.32	-.31	+.04	.00	-.63	-.78	+.05	-.64
Yellowness.....	-.11	+.29	+.07	-.47	-.34	-.12	-.25	+.42	+.25	-.05	+.04	-.40	+.18
Nonlint (S.A.).....	+.88	-.08	+.13	-.35	-.18	-.34	-.19	+.20	+.72	+.07	+.18	-.14	+.11
2.5% span length.....	-.21	+.63	+.44	+.47	+.44	+.59	+.15	+.18	-.60	+.40	-.15	-.41	+.10
Micronaire.....	-.15	-.22	-.14	-.20	-.02	+.70	+.71	-.61	-.34	-.14	-.21	-.39	+.38
Beta Coefficients for:													
Grayness.....	+.07*	-.78	-.89	-.20*	-.33*	-.32*	-.35*	+.05*	.00*	-.75	-.86	+.07*	-.99
Yellowness.....	-.04*	+.14*	+.03*	-.37*	-.29*	-.08*	-.19*	+.36*	+.17*	-.03*	+.02*	-.39*	+.14*
Nonlint (S.A.).....	+.91	-.04*	+.08*	-.31*	-.17*	-.28*	-.17*	+.19*	+.77	+.05*	+.10*	-.14*	+.11*
2.5% span length.....	-.09*	+.40	+.24*	+.39*	+.41*	+.49*	+.12*	+.15*	-.49	+.29*	-.07*	-.41*	+.09*
Micronaire.....	-.07*	-.13*	-.08*	-.17*	-.02*	+.77	+.90	-.74	-.28*	-.11*	-.12*	-.47*	+.41*
Regression Equation:													
Constant (a).....	+10.16	-98.13	-17.51	+1.41	-2.41	-188.44	-82.89	+.48	+1766.50	-49.32	+118.73	+169.00	+73.98
Regression Coef. for:													
Grayness.....	+.06	-8.30	-4.71	-.06	-.13	-2.80	-4.01	+.38	+.18	-6.66	-3.60	+.15	-2.41
Yellowness.....	-.08	+3.34	+.39	-.26	-.25	-1.44	-4.68	+6.37	+21.33	-.57	+.18	-1.84	+.77
Nonlint (S.A.).....	+.86	-.56	+.48	-.12	-.08	-2.92	-2.32	+1.85	+54.57	+.56	+.49	-.38	+.32
2.5% span length.....	-3.63	+211.18	+62.53	+6.22	+8.03	+213.89	+66.53	+60.63	-1453.36	+127.80	-15.14	-43.99	+10.74
Micronaire.....	-.17	-3.98	-1.21	-.16	-.02	+19.23	+29.34	-17.27	-46.57	-2.76	-1.45	-2.89	+2.85
Standard Error (±).....	.34	5.28	2.59	.23	.33	5.80	8.69	6.61	38.62	5.92	2.01	1.99	2.06

*Statistically insignificant.

Table 20.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 23 long staple samples, carded yarn, collected at triweekly intervals from selected gin points, crop of 1979

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
Mean Values for:													
Dependent variable	8.1	118	42	6.4	5.3	113	81	27	175	71	90	100	97
2.5% span length	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Micronaire	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Fiber str. (1/8" gage)	25	25	25	25	25	25	25	25	25	25	25	25	25
Uniformity ratio	44	44	44	44	44	44	44	44	44	44	44	44	44
Elongation (1/8" gage)	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Standard Deviation (±) for:													
Dependent variable	.96	13.0	6.5	.39	.48	10.6	13.9	9.9	71.6	10.9	5.1	2.6	3.0
2.5% span length	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
Micronaire	.42	.42	.42	.42	.42	.42	.42	.42	.42	.42	.42	.42	.42
Fiber str. (1/8" gage)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Uniformity ratio	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9
Elongation (1/8" gage)	.55	.55	.55	.55	.55	.55	.55	.55	.55	.55	.55	.55	.55
Simple Correlation Coef. for:													
2.5% span length	+.06	+.48	+.40	+.58	+.58	+.33	+.06	+.13	-.32	+.46	+.13	-.12	+.13
Micronaire	+.01	-.61	-.64	-.39	-.30	+.62	+.63	-.63	-.43	-.59	-.66	-.49	-.18
Fiber str. (1/8" gage)	-.40	+.83	+.81	+.44	+.42	-.07	-.02	+.27	+.03	+.78	+.69	+.17	+.59
Uniformity ratio	-.27	+.42	+.38	+.42	+.48	+.06	-.01	+.12	-.24	+.35	+.34	+.03	+.47
Elongation (1/8" gage)	-.08	-.16	-.06	-.13	+.19	+.04	+.29	-.43	-.12	+.09	-.13	-.02	+.19
Multiple Cor. Data for:													
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE													
Multiple Cor. Coef.	.06	.71	.69	.64	.60	.78	.66	.63	.60	.68	.66	.54	.20
Partial Cor. Coef. for:													
2.5% span length	+.06	+.45	+.36	+.56	+.55	+.61	+.26	.00	-.46	+.42	-.01	-.26	+.09
Micronaire	+.02	-.60	-.61	-.33	-.22	+.75	+.66	-.62	-.54	-.57	-.65	-.53	-.16
Beta Coefficients for:													
2.5% span length	+.06*	+.36*	+.28*	+.52*	+.54*	+.49	+.20*	.00*	-.43	+.35*	-.01*	-.23*	+.09*
Micronaire	+.02*	-.54	-.58	-.27*	-.18*	+.73	+.68	-.63	-.52	-.52	-.66	-.54*	-.16*
Regression Equation:													
Constant (a)	+5.15	-34.48	-7.15	-2.15	-5.89	-203.07	-140.70	+89.11	+1969.58	-52.49	+125.86	+142.80	+88.08
Regression Coef. for:													
2.5% span length	+2.36	+193.08	+74.69	+8.47	+10.56	+212.69	+115.58	-1.56	-1262.41	+156.26	-2.41	-25.47	+11.41
Micronaire	+.05	-16.43	-8.77	-.25	-.20	+18.22	+22.19	-14.84	-88.06	-13.23	-7.99	-3.35	-1.11
Standard Error (±)	.96	9.16	4.67	.30	.38	6.60	10.41	7.69	57.31	7.99	3.86	2.22	2.91
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE FIBER STR. (1/8" GAGE)													
Multiple Cor. Coef.	.47	.90	.88	.67	.64	.79	.71	.63	.61	.85	.80	.54	.59
Partial Cor. Coef. for:													
2.5% span length	+.19	+.44	+.28	+.52	+.52	+.58	+.19	.00	-.44	+.37	-.20	-.26	-.05
Micronaire	-.18	-.52	-.54	-.23	-.11	+.75	+.70	-.59	-.53	-.45	-.57	-.50	+.09
Fiber str. (1/8" gage)	-.47	+.79	+.75	+.25	+.26	+.17	+.32	.00	-.10	+.70	+.61	+.01	+.57
Beta Coefficients for:													
2.5% span length	+.18*	+.22*	+.15*	+.48*	+.49*	+.46	+.14*	.00*	-.41*	+.22*	-.13*	-.24*	-.04*
Micronaire	-.18*	-.29*	-.34*	-.19*	-.09*	+.77	+.78	-.64	-.56*	-.29*	-.46	-.54*	+.09*
Fiber Str. (1/8" gage)	-.53*	+.64	+.62	+.21*	+.24*	+.12*	+.27*	.00*	-.09*	+.59	+.53	+.01*	+.64
Regression Equation:													
Constant (a)	+10.30	-117.96	-47.44	-3.00	-7.03	-216.16	-178.83	+89.55	+2034.31	-116.77	+98.67	+142.64	+69.09
Regression Coef. for:													
2.5% span length	+6.90	+119.47	+39.16	+7.72	+9.56	+201.15	+81.96	-1.18	-1205.33	+99.57	-26.39	-25.62	-5.34
Micronaire	-.41	-8.95	-5.16	-.18	-.10	+19.40	+25.61	-14.88	-93.86	-7.48	-5.55	-3.33	+.60
Fiber str. (1/8" gage)	-.34	+5.54	+2.67	+.06	+.08	+.87	+2.53	-.03	-4.30	+4.27	+1.80	+.01	+1.26
Standard Error (±)	.84	5.56	3.07	.29	.37	6.50	9.86	7.69	57.03	5.69	3.05	2.22	2.39

*Statistically insignificant

Table 20.--Continued

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE FIBER STR. (1/8" GAGE), UNIFORMITY RATIO													
Multiple Cor. Coef.....	.53	.90	.88	.68	.67	.79	.71	.63	.63	.85	.81	.54	.68
Partial Cor. Coef. for:													
2.5% span length.....	+.28	+.40	+.24	+.46	+.43	+.55	+.17	+.01	-.34	+.36	-.26	-.24	-.20
Micronaire.....	-.20	-.52	-.54	-.22	-.10	+.75	+.70	-.59	-.55	-.45	-.57	-.50	+.13
Fiber str. (1/8" gage)....	-.43	+.78	+.74	+.21	+.22	+.17	+.31	.00	-.05	+.70	+.59	.00	+.54
Uniformity ratio.....	-.27	+.10	+.07	+.15	+.24	-.01	+.01	-.03	-.23	-.02	+.21	+.02	+.41
Beta Coefficients for:													
2.5% span length.....	+.28*	+.21*	+.13*	+.43*	+.41*	+.46*	+.14*	+.01*	-.32*	+.23*	-.18*	-.24*	-.17*
Micronaire.....	-.19*	-.29*	-.34*	-.19*	-.08*	+.77	+.78	-.64	-.57*	-.29*	-.45*	-.54*	+.11*
Fiber str. (1/8" gage)....	-.48*	+.63	+.61	+.19*	+.19*	+.12*	+.27*	.00*	-.04*	+.59	+.50	.00*	+.55*
Uniformity ratio.....	-.27*	+.05*	+.04*	+.12*	+.21*	-.01*	+.01*	-.03*	-.21*	-.01*	+.14*	+.02*	+.38*
Regression Equation:													
Constant (a).....	+16.74	-135.97	-54.02	-4.25	-9.66	-214.02	-182.87	+95.32	+2392.46	-112.74	+79.91	+141.65	+37.94
Regression Coef. for:													
2.5% span length.....	+11.06	+110.56	+35.72	+6.95	+7.98	+202.58	+79.07	+3.59	-942.71	+101.45	-37.86	-26.44	-20.77
Micronaire.....	-.44	-8.87	-5.13	-.17	-.09	+19.38	+25.63	-14.91	-95.76	-7.49	-5.46	-3.33	+.74
Fiber str. (1/8" gage)..	-.30	+5.45	+2.64	+.05	+.06	+.88	+2.51	+.01	-2.14	+4.29	+1.70	.00	+1.10
Uniformity ratio.....	-.27	+.68	+.25	+.05	+.11	-.09	+.18	-.27	-15.92	-.15	+.77	+.05	+1.18
Standard Error (±).....	.81	5.53	3.06	.29	.36	6.50	9.86	7.69	55.48	5.69	2.98	2.22	2.18
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE FIBER STR. (1/8" GAGE), UNIFORMITY RATIO, ELONGATION (1/8" GAGE)													
Multiple Cor. Coef.....	.54	.92	.88	.68	.73	.79	.71	.71	.63	.87	.83	.54	.68
Partial Cor. Coef. for:													
2.5% span length.....	+.31	+.30	+.21	+.43	+.54	+.51	+.21	-.14	-.33	+.44	-.34	-.21	-.19
Micronaire.....	-.24	-.44	-.50	-.20	-.23	+.74	+.67	-.52	-.52	-.52	-.51	-.49	+.12
Fiber str. (1/8" gage)....	-.46	+.81	+.73	+.22	+.12	+.19	+.27	+.12	-.04	+.67	+.63	-.02	+.53
Uniformity ratio.....	-.30	+.19	+.08	+.15	+.16	+.02	-.02	+.08	-.22	-.10	+.27	.00	+.40
Elongation (1/8" gage)....	+.16	-.34	-.06	-.04	+.39	-.11	+.15	-.40	-.04	+.31	-.27	+.07	+.01
Beta Coefficients for:													
2.5% span length.....	+.34*	+.15*	+.12*	+.42*	+.52*	+.44*	+.18*	-.12*	-.33*	+.29*	-.24*	-.22*	-.17*
Micronaire.....	-.25*	-.23*	-.33*	-.17*	-.19*	+.80	+.74	-.52*	-.55*	-.36*	-.39*	-.56*	+.10*
Fiber Str. (1/8" gage)....	-.52*	+.67	+.62	+.20*	+.10*	+.15*	+.23*	+.10*	-.03*	+.54	+.55	-.02*	+.55*
Uniformity ratio.....	-.31*	+.09*	+.05*	+.13*	+.13*	+.01*	-.02*	+.06*	-.20*	-.06*	+.19*	.00*	+.38*
Elongation (1/8" gage)....	+.15*	-.17*	-.03*	-.03*	+.33*	-.07*	+.12*	-.35*	-.04*	+.19*	-.18*	+.06*	+.01*
Regression Equation:													
Constant (a).....	+15.43	-118.33	-52.30	-4.14	-11.04	-206.85	-198.64	+128.94	+2417.42	-129.10	+87.83	+140.04	+37.68
Regression Coef. for:													
2.5% span length.....	+13.22	+80.45	+32.82	+6.77	+10.28	+190.85	+104.61	-49.84	-983.00	+129.64	-50.96	-23.88	-20.32
Micronaire.....	-.56	-7.13	-4.96	-.16	-.22	+20.03	+24.23	-12.06	-93.57	-9.14	-4.73	-3.47	+.71
Fiber str. (1/8" gage)..	-.33	+5.85	+2.68	+.05	+.03	+1.03	+2.18	+.67	-1.63	+3.90	+1.87	-.03	+1.09
Uniformity ratio.....	-.31	+1.26	+.31	+.05	+.06	+.12	-.28	+.67	-15.20	-.69	+1.01	.00	+1.17
Elongation (1/8" gage)..	+.27	-3.90	-.37	-.02	+.29	-1.45	+3.12	-6.38	-4.90	+3.69	-1.64	+.31	+.06
Standard Error (±).....	.80	5.20	3.06	.29	.33	6.46	9.75	7.05	55.43	5.40	2.88	2.22	2.18

*Statistically insignificant

Table 21.--Cotton: Results of multiple correlation analyses for the relationship of classification and supplemental fiber test measurements with processing tests performed on 23 long staple samples, combed yarns, collected at triweekly intervals from selected gin points, crop of 1979

Statistical Items	Dependent Variables								
	Comber waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps	
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.
Mean Values for:									
Dependent variable.....	17.8	138	50	6.9	5.7	128	114	18.6	121.1
Grade index.....	92	92	92	92	92	92	92	92	92
Staple length.....	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1
Micronaire.....	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Fiber strength (0 gage)....	88	88	88	88	88	88	88	88	88
Uniformity ratio.....	44	44	44	44	44	44	44	44	44
Standard Deivations (±) for:									
Dependent variable.....	1.18	12.0	5.4	.3	.3	5.2	9.5	12.4	68.6
Grade index.....	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
Staple length.....	.85	.85	.85	.85	.85	.85	.85	.85	.85
Micronaire.....	.42	.42	.42	.42	.42	.42	.42	.42	.42
Fiber strength (0 gage)....	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Uniformity ratio.....	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Simple Correlation Coef. for:									
Grade index.....	-.30	+.40	+.43	-.19	+.09	-.30	-.24	+.10	-.04
Staple length.....	-.60	+.57	+.59	+.27	+.38	-.06	-.22	+.06	+.01
Micronaire.....	+.27	-.73	-.69	-.50	-.49	+.59	+.75	-.52	-.60
Fiber strength (0 gage)....	-.54	+.78	+.80	+.16	+.38	-.06	-.23	+.22	+.10
Uniformity ratio.....	-.54	+.41	+.41	+.28	+.24	-.24	+.06	-.02	-.10
Multiple Cor. Data for:									
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH									
Multiple Cor. Coef.....	.63	.63	.67	.37	.38	.30	.29	.11	.04
Partial Cor. Coef. for:									
Grade index.....	-.22	+.34	+.38	-.27	+.01	-.29	-.20	+.09	-.04
Staple length.....	-.57	+.54	+.57	+.32	+.37	+.01	-.18	+.04	+.01
Beta Coefficients for:									
Grade index.....	-.18*	+.29*	+.31*	-.26*	+.01*	-.30*	-.20*	+.09*	-.04*
Staple length.....	-.56	.51*	.52	.32*	.38*	.01*	.17*	.05*	.02*
Regression Equation:									
Constant (a).....	+49.47	-176.81	-98.28	+3.67	+1.10	+151.07	+215.45	-22.50	+123.16
Regression Coef. for:									
Grade index.....	-.04	+.61	+.30	-.02	.00	-.27	-.34	+.19	-.50
Staple length.....	-.78	+7.17	+3.36	+.13	+.13	+.04	-1.95	+.66	+1.23
Standard error (±).....	.92	9.31	4.06	.31	.26	4.95	9.03	12.28	68.53
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE									
Multiple Cor. Coef.....	.63	.80	.79	.62	.53	.64	.76	.55	.69
Partial Cor. Coef. for:									
Grade index.....	-.22	+.27	+.32	-.42	-.09	-.20	-.06	-.04	-.25
Staple length.....	-.55	+.41	+.45	+.12	+.23	+.28	+.17	-.20	-.33
Micronaire.....	-.03	-.64	-.58	-.53	-.40	+.60	+.73	-.54	-.68
Beta Coefficients for:									
Grade index.....	-.19*	+.18*	+.21*	-.38*	-.08*	-.16*	-.04*	-.04*	-.20*
Staple length.....	-.57*	+.29*	+.34*	+.11*	+.22*	+.25*	+.13*	-.19*	-.28*
Micronaire.....	-.03*	-.56	-.49	-.56*	-.42*	+.65	+.79	-.61	-.78
Regression Equation:									
Constant (a).....	+50.43	+19.05	-21.36	+9.18	+4.56	+53.75	-2.62	+197.54	+1669.33
Regression Coef. for:									
Grade index.....	-.04	+.37	+.20	-.02	.00	-.15	-.07	-.08	-2.41
Staple length.....	-.80	+4.15	+2.17	+.04	+.07	+1.54	+1.41	-2.73	-22.58
Micronaire.....	-.08	-15.86	-6.23	-.45	-.28	+7.88	+17.66	-17.82	-125.19
Standard Error (±).....	.92	7.16	3.32	.27	.24	3.98	6.14	10.30	49.93

*Statistically insignificant.

Table 21 Continued

Statistical Items	Dependent Variables								
	Comber waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps	
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH (O GAGE)									
Multiple Cor. Coef.....	.68	.90	.90	.62	.56	.70	.77	.56	.69
Partial Coef. for:									
Grade index.....	-.02	-.05	.00	-.40	-.18	-.35	-.15	-.08	-.19
Staple length.....	-.49	+.29	+.35	+.09	+.16	+.19	+.11	-.21	-.30
Micronaire.....	-.13	-.65	-.57	-.51	-.35	+.65	+.74	-.52	-.68
Fiber str. (O gage).....	-.34	+.67	+.69	+.08	+.21	+.35	+.20	+.08	-.04
Beta Coefficients for:									
Grade index.....	-.01*	-.03*	.00*	-.42*	-.19*	-.31*	-.11*	-.08*	-.18*
Staple length.....	-.48*	+.16*	+.19*	+.09*	+.16*	+.16*	+.08*	-.21*	-.27*
Micronaire.....	-.11*	-.44	-.36	-.54*	-.36*	+.73	+.83	-.59*	-.78
Fiber str. (O gage).....	-.35*	+.52	+.55	+.09*	+.24*	+.35*	+.17*	+.08*	-.04*
Regression Equation:									
Constant (a).....	+51.00	+.48	-30.23	+9.15	+4.42	+49.32	-5.96	+195.41	+1672.39
Regression Coef. for:									
Grade index.....	.00	-.06	.00	-.03	-.01	-.29	-.19	-.16	-2.15
Staple length.....	-.67	+2.21	+1.24	+.03	+.05	+.97	+.92	-3.05	-21.67
Micronaire.....	-.30	-12.46	-4.60	-.43	-.24	+8.88	+18.51	-17.25	-126.78
Fiber str. (O gage)....	-.09	+1.31	+.62	+.01	+.01	+.38	+.33	+.22	-.61
Standard Error (±).....	.87	5.33	2.41	.26	.23	3.72	6.02	10.27	49.88
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH, (O GAGE), UNIFORMITY RATIO									
Multiple Cor. Coef.....	.82	.93	.93	.64	.57	.71	.80	.57	.72
Partial Cor. Coef. for:									
Grade index.....	-.05	-.04	+.02	-.40	-.18	-.36	-.15	-.08	-.21
Staple length.....	-.55	+.30	+.37	+.08	+.16	+.20	+.09	-.20	-.30
Micronaire.....	-.28	-.66	-.58	-.49	-.33	+.64	+.78	-.53	-.71
Fiber str. (O gage).....	-.42	+.73	+.74	+.08	+.21	+.36	+.20	+.08	-.04
Uniformity ratio.....	-.62	+.53	+.53	+.20	+.14	-.19	+.34	-.15	-.30
Beta Coefficients for:									
Grade index.....	-.03*	-.02*	+.01*	-.42*	-.18*	-.32*	-.11*	-.08*	-.19*
Staple length.....	-.44*	+.14*	+.17*	+.07*	+.15*	+.17*	+.06*	-.20*	-.25*
Micronaire.....	-.20*	-.39	-.31*	-.51*	-.34*	+.70	+.87	-.62*	-.83
Fiber str. (O gage).....	-.34*	+.52	+.55	+.08*	+.23*	+.36*	+.16*	+.09*	-.04*
Uniformity ratio.....	-.47	+.24*	+.24*	+.16*	+.12*	-.14*	+.23*	-.13*	-.23*
Regression Equation:									
Constant (a).....	+76.07	-131.30	-89.86	+6.71	+2.87	+81.37	-102.31	+269.09	+2374.78
Regression Coef. for:									
Grade index.....	-.01	-.04	+.01	-.02	-.01	-.29	-.17	-.18	-2.25
Staple length.....	-.61	+1.93	+1.12	+.03	+.05	+1.04	+.72	-2.90	-20.18
Micronaire.....	-.55	-11.14	-4.01	-.41	-.23	+8.56	+19.47	-17.98	-133.79
Fiber str. (O gage)....	-.08	+1.30	+.62	+.01	+.01	+.39	+.32	+.22	-.56
Uniformity ratio.....	-.58	+3.07	+1.39	+.06	+.04	-.75	+2.25	-1.72	-16.38
Standard Error (±).....	.68	4.51	2.03	.26	.23	3.66	5.65	10.15	47.54

*Statistically insignificant.

Table 22.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 23 long staple samples, combed yarn, collected at triweekly intervals from selected gin points, crop of 1979

Statistical Items	Dependent Variables								
	Comber waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps	
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.
Mean Values for:									
Dependent variable.....	17.8	138	50	6.9	5.7	128	114	18.6	121.1
Grayness.....	2	2	2	2	2	2	2	2	2
Yellowness.....	3	3	3	3	3	3	3	3	3
Nonlint content (S.A.).....	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
2.5% span length.....	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Micronaire.....	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Standard Deviation (±) for:									
Dependent variable.....	1.18	12.0	5.4	.3	.3	5.2	9.5	12.4	68.6
Grayness.....	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Yellowness.....	.6	.6	.6	.6	.6	.6	.6	.6	.6
Nonlint content (S.A.).....	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
2.5% span length.....	.02	.02	.02	.02	.02	.02	.02	.02	.02
Micronaire.....	.42	.42	.42	.42	.42	.42	.42	.42	.42
Simple Correlation Coef. for:									
Grayness.....	+.62	-.83	-.86	-.23	-.54	+.37	+.26	-.42	-.29
Yellowness.....	+.25	-.15	-.15	-.39	-.41	-.08	-.09	+.02	-.04
Nonlint (S.A.).....	+.30	-.27	-.31	+.14	-.01	-.01	-.02	+.15	+.29
2.5% span length.....	-.49	+.43	+.38	+.50	+.35	+.22	-.20	-.10	-.15
Micronaire.....	+.27	-.73	-.69	-.50	-.49	+.59	+.75	-.52	-.60
Multiple Cor. Data for:									
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS									
Multiple Cor. Coef.....	.64	.83	.86	.42	.63	.40	.29	.43	.29
Partial Cor. Coef. for:									
Grayness.....	+.61	-.83	-.86	-.17	-.52	+.39	+.28	-.43	-.29
Yellowness.....	+.18	.00	+.01	-.37	-.38	-.16	-.14	+.11	+.01
Beta Coefficients for:									
Grayness.....	+.60	-.83	-.86*	-.16*	-.48*	+.40*	+.28*	-.44*	-.29*
Yellowness.....	+.15*	.00*	.00	-.36*	-.33*	-.15*	-.14*	+.10*	+.01*
Regression Equation:									
Constant (a).....	+15.61	+154.79	+58.13	+7.68	+6.51	+128.86	+117.73	+20.09	+150.65
Regression Coef. for:									
Grayness.....	+.58	-8.20	-3.84	-.04	-.11	+1.69	+2.19	-4.39	-16.40
Yellowness.....	+.31	+.03	+.05	-.22	-.17	-1.36	-2.38	+2.27	+1.21
Standard Error (±).....	.91	6.66	2.75	.31	.22	4.75	9.04	11.16	65.63
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.)									
Multiple Cor. Coef.....	.64	.86	.88	.50	.70	.49	.36	.64	.61
Partial Cor. Coef. for:									
Grayness.....	+.55	-.84	-.87	-.31	-.61	+.48	+.35	-.62	-.57
Yellowness.....	+.18	+.06	+.07	-.34	-.36	-.20	-.18	+.21	+.11
Nonlint (S.A.).....	-.04	+.39	+.38	+.30	+.38	-.31	-.22	+.52	+.57
Beta Coefficients for:									
Grayness.....	+.62*	-.98	-1.00	-.34*	-.68	+.59*	+.43*	-.75	-.66*
Yellowness.....	+.14*	+.03*	+.03*	-.32*	-.28*	-.19*	-.17*	+.17*	+.09*
Nonlint (S.A.).....	-.04*	+.26*	+.23*	+.32*	+.36*	-.34*	-.26*	+.57*	+.65
Regression Equation:									
Constant (a).....	+15.73	+145.38	+54.30	+7.35	+6.21	+134.14	+125.02	-1.01	+15.54
Regression Coef. for:									
Grayness.....	+.60	-9.64	-4.43	-.10	-.16	+2.50	+3.30	-7.62	-37.04
Yellowness.....	+.30	+.70	+.32	-.20	-.14	-1.74	-2.90	+3.77	+10.85
Nonlint (S.A.).....	-.04	+3.08	+1.25	+.11	+.10	-1.73	-2.38	+6.90	+44.19
Standard Error (±).....	.91	6.14	2.54	.29	.20	4.52	8.81	9.53	54.10

*Statistically insignificant.

Table 22.--Continued

Statistical Items	Dependent Variables								
	Comber waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps	
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH									
Multiple Cor. Coef.....	.74	.90	.91	.57	.70	.60	.42	.70	.73
Partial Cor. Coef. for:									
Grayness.....	+.61	-.87	-.88	-.31	-.61	+.43	+.36	-.51	-.37
Yellowness.....	-.08	+.35	+.29	-.17	-.30	.00	-.26	+.02	-.16
Nonlint (S.A.).....	+.09	+.31	+.31	+.23	+.36	-.41	-.17	+.59	+.67
2.5% span length.....	-.47	+.54	+.44	+.32	+.05	+.39	-.22	-.37	-.49
Beta Coefficients for:									
Grayness.....	+.63	-.92	-.98	-.33*	-.69	+.48*	+.43*	-.59*	-.38*
Yellowness.....	-.06*	+.19*	+.15*	-.17*	-.26*	.00*	-.29*	+.01*	-.13*
Nonlint (S.A.).....	+.08*	+.17*	+.17*	+.24*	+.34*	-.44*	-.19*	+.65	+.77
2.5% span length.....	-.44*	+.33*	+.25*	+.34*	+.04*	+.41*	-.25*	-.34*	-.47*
Regression Equation:									
Constant (a).....	+40.82	-51.57	-11.43	+1.83	+5.61	+30.66	+239.04	+200.53	+1542.48
Regression Coef. for:									
Grayness.....	+.61	-9.03	-4.34	-.09	-.16	+2.03	+3.32	-5.91	-21.53
Yellowness.....	-.13	+4.01	+1.43	-.10	-.13	+.03	-4.83	+.30	-15.55
Nonlint (S.A.).....	+.09	+2.04	+.91	+.08	+.10	-2.28	-1.78	+7.98	+52.43
2.5% span length.....	-21.26	+165.64	+55.48	+4.66	+.50	+88.39	-96.52	-173.49	-1319.05
Standard Error (±).....	.80	5.16	2.29	.28	.20	4.16	8.60	8.87	47.15
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH, MICRONAIRE									
Multiple Cor. Coef.....	.76	.93	.92	.67	.70	.70	.88	.71	.79
Partial Cor. Coef. for:									
Grayness.....	+.61	-.71	-.76	+.07	-.47	+.03	-.52	-.31	-.01
Yellowness.....	-.05	+.43	+.33	-.15	-.30	-.04	-.54	+.03	-.13
Nonlint (S.A.).....	-.04	+.08	+.15	+.03	+.31	-.21	+.39	+.50	+.57
2.5% span length.....	-.48	+.61	+.47	+.37	+.05	+.42	-.45	-.36	-.52
Micronaire.....	-.28	-.51	-.33	-.42	-.04	+.47	+.85	-.20	-.46
Beta Coefficients for:									
Grayness.....	+.86	-.65	-.81	+.09*	-.65*	+.03*	-.50*	-.41*	-.01*
Yellowness.....	-.04*	+.21*	+.16*	-.14*	-.26*	-.03*	-.36*	+.03*	-.10*
Nonlint (S.A.).....	-.04*	+.04*	+.08*	+.03*	+.33*	-.22*	+.28*	+.56*	+.58*
2.5% span length.....	-.43*	+.35	+.26*	+.36*	+.04*	+.39*	-.29*	-.33*	-.45*
Micronaire.....	-.27*	-.31*	-.20*	-.49*	-.04*	+.54*	+1.11	-.21*	-.45*
Regression Equation:									
Constant (a).....	+43.19	-24.09	-3.57	+3.05	+5.70	+10.24	-162.01	+219.56	+1771.51
Regression Coef. for:									
Grayness.....	+.83	-6.44	-3.60	+.02	-.15	+.15	-3.89	-4.18	-.81
Yellowness.....	-.09	+4.48	+1.56	-.08	-.13	-.31	-6.13	+.62	-11.69
Nonlint (S.A.).....	-.04	+.46	+.45	+.01	+.09	-1.11	+2.64	+6.90	+39.35
2.5% span length.....	-20.72	+171.85	+57.26	+4.94	+.52	+83.79	-113.92	-169.21	-1267.60
Micronaire.....	-.76	-8.86	-2.53	-.39	-.03	+6.55	+24.78	-6.10	-73.29
Standard Error (±).....	.77	4.45	2.16	.25	.20	3.68	4.52	8.68	41.90

*Statistically insignificant.

Table 23.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 23 long staple samples, combed yarn, collected at triweekly intervals from selected gin points, crop of 1979

Statistical Items	Dependent Variables								
	Comber waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps	
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.
Mean Values for:									
Dependent variable	17.8	138	50	6.9	5.7	128	114	18.6	121.1
2.5% span length	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Micronaire	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Fiber str. (1/8" gage)	25	25	25	25	25	25	25	25	25
Uniformity ratio	44	44	44	44	44	44	44	44	44
Elongation (1/8" gage)	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Standard Deviation (±) for:									
Dependent variable	1.18	12.0	5.4	.3	.3	5.2	9.5	12.4	68.6
2.5% span length	.02	.02	.02	.02	.02	.02	.02	.02	.02
Micronaire	.42	.42	.42	.42	.42	.42	.42	.42	.42
Fiber str. (1/8" gage)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Uniformity ratio	.9	.9	.9	.9	.9	.9	.9	.9	.9
Elongation (1/8" gage)	.55	.55	.55	.55	.55	.55	.55	.55	.55
Simple Correlation Coef. for:									
2.5% span length	-.49	+.43	+.38	+.50	+.35	+.22	-.20	-.10	-.15
Micronaire	+.27	-.73	-.69	-.50	-.49	+.59	+.75	-.52	-.60
Fiber str. (1/8" gage)	-.55	+.82	+.84	+.32	+.49	-.22	-.21	+.40	+.28
Uniformity ratio	-.54	+.41	+.41	+.28	+.24	-.24	+.06	-.02	-.10
Elongation (1/8" gage)	+.08	-.19	-.13	+.07	+.08	-.09	+.38	+.04	+.10
Multiple Cor. Data for:									
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE									
Multiple Cor. Coef.	.52	.79	.73	.64	.55	.68	.75	.57	.66
Partial Cor. Coef. for:									
2.5% span length	-.46	+.42	+.32	+.47	+.29	+.44	-.06	-.26	-.36
Micronaire	+.19	-.73	-.67	-.46	-.45	+.66	+.74	-.56	-.65
Beta Coefficients for:									
2.5% span length	-.46*	+.29*	+.24*	+.42*	+.26*	+.36*	-.04*	-.22*	-.29*
Micronaire	+.17*	-.67	-.64	-.41*	-.43*	+.66	+.74	-.57	-.66
Regression Equation:									
Constant (a)	+41.14	+52.64	+23.64	+1.63	+3.48	+6.85	+63.97	+214.85	+1497.44
Regression Coef. for:									
2.5% span length	-22.25	+143.77	+53.12	+5.77	+3.03	+77.35	-15.12	-113.12	-826.94
Micronaire	+.47	-19.05	-8.21	-.33	-.29	+8.10	+16.53	-16.57	-106.89
Standard Error (±)	1.01	7.43	3.72	.26	.24	3.78	6.23	10.19	51.31
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE FIBER STR. (1/8" GAGE)									
Multiple Cor. Coef.	.65	.93	.92	.64	.61	.69	.76	.62	.67
Partial Cor. Coef. for:									
2.5% span length	-.41	+.41	+.23	+.45	+.23	+.44	-.11	-.33	-.38
Micronaire	.00	-.75	-.67	-.42	-.34	+.62	+.75	-.47	-.60
Fiber str. (1/8" gage)	-.45	+.82	+.82	+.03	+.31	-.07	+.21	+.31	+.13
Beta Coefficients for:									
2.5% span length	-.36*	+.17*	+.10*	+.41*	+.20*	+.37*	-.07*	-.29*	-.32*
Micronaire	.00*	-.45	-.40	-.40*	-.32*	+.64	+.80	-.46*	-.62
Fiber Str. (1/8" gage)	-.44*	+.57	+.64	+.03*	+.29*	-.05*	+.16*	+.29*	+.11*
Regression Equation:									
Constant (a)	+46.33	-17.02	-11.51	-1.53	+2.64	+9.70	+49.03	+178.95	+1421.56
Regression Coef. for:									
2.5% span length	-17.67	+82.34	+22.13	+5.68	+2.29	+79.86	-28.29	-144.78	-893.85
Micronaire	+.01	-12.81	-5.06	-.32	-.22	+7.84	+17.87	-13.36	-100.09
Fiber str. (1/8" gage)	-.34	+4.62	+2.33	+.01	+.06	-.19	+.99	+2.38	+5.03
Standard Error (±)	.90	4.29	2.12	.26	.23	3.77	6.09	9.69	50.88

*Statistically insignificant

Table 23.--Continued

Statistical Items	Dependent Variables								
	Comber waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn neps	
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE FIBER STR. (1/8" GAGE), UNIFORMITY RATIO									
Multiple Cor. Coef.....	.70	.94	.92	.64	.61	.74	.80	.63	.69
Partial Cor. Coef. for:									
2.5% span length.....	-.30	+.34	+.17	+.41	+.22	+.55	-.27	-.23	-.26
Micronaire.....	-.02	-.75	-.68	-.42	-.34	+.64	+.78	-.47	-.61
Fiber str. (1/8" gage)....	-.41	+.81	+.81	+.03	+.31	+.02	+.14	+.33	+.17
Uniformity ratio.....	-.35	+.14	+.16	.00	-.02	-.37	+.38	-.14	-.21
Beta Coefficients for:									
2.5% span length.....	-.25*	+.15*	+.07*	+.41*	+.20*	+.51*	-.19*	-.22*	-.23*
Micronaire.....	-.01*	-.45	-.39	-.40*	-.32*	+.63	+.82	-.47*	-.63
Fiber str. (1/8" gage)....	-.37*	+.56	+.63	+.03*	+.30*	+.01*	+.10*	+.32*	+.15*
Uniformity ratio.....	-.31*	+.06*	+.07*	.00*	-.02*	-.31*	+.28*	-.13*	-.18*
Regression Equation:									
Constant (a).....	+56.00	-35.47	-22.08	+1.51	+2.77	+45.82	-14.29	+210.19	+1674.29
Regression Coef. for:									
2.5% span length.....	-12.34	+72.38	+16.26	+5.66	+2.39	+109.74	-73.84	-111.72	-653.36
Micronaire.....	-.04	-12.72	-5.01	-.32	-.22	+7.64	+18.20	-13.56	-101.62
Fiber str. (1/8" gage)..	-.29	+4.52	+2.28	+.01	+.06	+.04	+.61	+2.61	+6.76
Uniformity ratio.....	-.38	+.72	+.42	.00	-.01	-1.70	+2.79	-1.67	-12.76
Standard Error (±).....	.85	4.25	2.09	.26	.23	3.50	5.64	9.59	49.77
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE FIBER STR. (1/8" GAGE), UNIFORMITY RATIO, ELONGATION (1/8" GAGE)									
Multiple Cor. Coef.....	.71	.95	.93	.70	.64	.75	.81	.64	.72
Partial Cor. Coef. for:									
2.5% span length.....	-.24	+.23	+.06	+.51	+.29	+.49	-.20	-.18	-.15
Micronaire.....	-.07	-.72	-.62	-.52	-.40	+.65	+.75	-.48	-.66
Fiber str. (1/8" gage)....	-.43	+.84	+.83	-.07	+.25	+.06	+.09	+.29	+.09
Uniformity ratio.....	-.38	+.24	+.24	-.10	-.08	-.34	+.34	-.17	-.28
Elongation (1/8" gage)....	-.16	-.39	-.32	+.37	+.24	-.15	+.18	+.11	+.31
Beta Coefficients for:									
2.5% span length.....	-.21*	+.09*	+.02*	+.53*	+.28*	+.47*	-.15*	-.18*	-.13*
Micronaire.....	-.06*	-.39	-.34	-.51*	-.40*	+.67	+.78	-.50*	-.72
Fiber Str. (1/8" gage)....	-.41*	+.61	+.66	-.06*	+.24*	+.05*	+.06*	+.29*	+.08*
Uniformity ratio.....	-.34*	+.10*	+.11*	-.08*	-.08*	-.28*	+.25*	-.15*	-.24*
Elongation (1/8" gage)....	-.13*	-.16*	-.14*	+.33*	+.22*	-.12*	+.12*	+.10*	+.26*
Regression Equation:									
Constant (a).....	+54.66	-19.63	-15.69	+.46	+2.20	+51.69	-24.76	+197.55	+1499.26
Regression Coef. for:									
2.5% span length.....	-10.08	+45.69	+5.52	+7.34	+3.31	+100.41	-56.89	-92.23	-380.13
Micronaire.....	-.16	-11.20	-4.40	-.41	-.27	+8.14	+17.28	-14.55	-115.86
Fiber str. (1/8" gage)..	-.32	+4.88	+2.42	-.01	+.04	+.16	+.40	+2.38	+3.44
Uniformity ratio.....	-.42	+1.22	+.62	-.03	-.02	-1.54	+2.49	-2.00	-17.45
Elongation (1/8" gage)..	+.29	-3.41	-1.37	+.20	+.11	-1.11	+2.07	+2.24	+31.91
Standard Error (±).....	.83	3.91	1.98	.24	.22	3.46	5.55	9.53	47.33

*Statistically insignificant.

MEASURES USED IN STATISTICAL ANALYSIS

Some of the statistical concepts used in this study may be unfamiliar to many who will find the information in this report useful. Results reported in this study include the means, standard deviations, simple and multiple correlation coefficients, beta values, partial correlation coefficients and regression equations for each cotton quality measurement. Formulas of each of these results may be found in any good textbook on statistical correlation. However, for those not familiar with these concepts the following common language explanation is given for each item as it is used in this report:

a. Mean value is the simple arithmetical average of each measured property for the spinning lots included in the study.

b. Standard deviation is a measure of dispersion around the mean value expressed in the same terms as the variable. For a normal distribution, approximately 68 percent of the values will be within plus or minus one standard deviation of the mean, 95 percent within plus or minus two standard deviations, and nearly all values will be within plus or minus three standard deviations.

Example: (From Table 15, column 1, page 81.) The mean or average value for picker and card waste, the dependent variable is 6.7 percent and the standard deviation is 1.06 percent. This indicates that 68 percent of the lots tested in the medium staple group should contain between 5.6 and 7.8 percent waste (6.7 ± 1.06). Ninety-five percent of the lots tested would have from 4.6 to 8.8 percent waste (6.7 ± 2.12) and nearly all the test lots would show values between 3.5 and 9.9 percent (6.7 ± 3.18).

c. Simple correlation coefficient (r) is a measure of the linear relationship between two variables, i.e., how one variable is associated with the other. A correlation coefficient of 0 indicates no relationship, and 1.0 indicates a perfect relationship. A plus sign before the correlation coefficient indicates that the values for both variables change in the same direction, whereas a minus sign indicates that they change in opposite directions.

Example: (From Table 15, column 1, page 81.) The simple correlation coefficient (r) of grade index with picker and card waste is -.63. This indicates that grade index and picker and card waste are related. It further indicates by the - sign that as one goes up or down the other goes in the opposite direction.

d. Multiple correlation coefficient (R) is a measure of the linear relationship between one dependent variable and two or more independent variables. It has no plus or minus sign because one independent variable may contribute positively, and another negatively, in explaining the variation in the dependent variable. The multiple R may fall between 0 and 1.0, with 0 indicating no relationship and 1.0 a perfect relationship.

Example: (From Table 15, column 1, page 81.) The multiple R for the dependent variable of picker and card waste with independent variables of grade index, staple length, and micronaire is .77. This indicates that the combination of grade index, staple length, and micronaire shows a definite relationship to picker and card waste. It does not explain, however, whether grade index, staple length, and micronaire contribute positively or negatively to picker and card waste or which of the three is most important.

e. Although the coefficient of determination (R^2, or r^2) is not given, it may be easily obtained by squaring the simple r's or multiple R's and multiplying by 100. This given the percentage of variation explained, a measure of the amount of variation in the dependent variable which is explained by variation in the independent variable.

Example: The multiple R in the example above is .77. When squared and multiplied by 100 the result is 59.3. This means that 59.3 percent of the variation in picker and card waste is explained by grade index, staple length, and micronaire. The remaining 40.7 percent of the variation is unexplained.

f. Partial correlation coefficient (r) in a multiple analysis is similar to a simple correlation coefficient. The simple r indicates the statistical relationship between two variables without any control of other variables. In a multiple analysis, the partial correlation coefficient is one measure of the net relationship between one independent variable and the dependent variable while the influence of the other independent variables are statistically removed.

Example: (From Table 15, column 1, page 81.) The partial correlation coefficients (r) for picker and card waste with grade index, staple length, and micronaire are: -.65 for grade index, -.41 for staple length, and -.30 for micronaire. This shows that picker and card waste is related to grade index and that when one goes up or down the other goes in the opposite direction. It further shows that staple length and micronaire have less affect on picker and card waste than grade index since the values for these two variables are much smaller.

g. Beta coefficients (b) in a multiple correlation are sometimes preferred over use of partial r's. A Beta coefficient is another measure of the relative importance of a variable in a multiple correlation, with the influence of the other variable removed. Quite often, only one of these measures (Beta or partial r) is used for interpretation; both are included in this report. An asterisk beside the Beta value indicates that the result is statistically insignificant (less than three times its standard error).

Example: The Beta (B) coefficients in the above example are -.56 for grade index, -.31 for staple length, and -.23 for micronaire. This shows the same relative results as the partial correlation coefficients (r).

h. Regression equation or estimating equation is used to predict changes in the dependent variable which will result from changes in the independent variable or variables. It is written:

$$Y = a + b_1X_1 + b_2X_2 + \ldots + b_NX_N$$

where Y is the dependent variable and the X's are independent variables.

The constant "a" indicates the starting point or height of the regression line when it is to be plotted on a graph or to be used in calculating changes in the dependent variable. The regression coefficient "b" indicates the change in the dependent variable that is associated with each unit change in the independent variable. The spread or scatter of the data around the regression line is measured by the standard error. The standard error has the same relationship to the regression line as the standard deviation has to the mean value (see paragraph b. above).

Example: (From Table 15, column 1, page 81). Regression equation for picker and card waste:

Constant (a)	+29.22
Regression coefficients (b)	
Grade index	-.12
Staple length	-.27
Micronaire	-.44
Standard error	±.67

With regression coefficients (b) of -.12 for grade index, -.27 for staple length, and -.44 for micronaire reading the following average conditions should exist:

(1) With any unit change in grade index, picker and card waste percentage should change .12 in the opposite direction.

(2) With any unit change (32nd) in staple length, picker and card waste percentage should change .27 in the opposite direction.

(3) With any unit change (1.0) in micronaire reading, picker and card waste percentage should change .44 in the opposite direction.

Expressing this equation algebraically we have:

Estimated picker and card waste (percent) =
29.22 - .12 (grade index) - .27 (staple length) - .44 (micronaire)

Thus if we wished to predict the amount of picker and card waste from a bale of cotton of Strict Low Middling (94 index), a staple length of 1-1/16 inches (34 32nds) and a micronaire of 4.5, the equation would be:

Estimated picker and card waste = 29.22 - .12(94) - .27(34) - .44(4.5)

Estimated picker and card waste = 6.78%

The standard error of the equation of ±.67 indicates that actual picker and card waste obtained from this kind of cotton would be within plus or minus .67 percent (between 6.11 and 7.45) 68 times in 100.

A check on the accuracy of this figure can be made from the average results for SLM grade, 1-1/16 inch staple, in Table 3 for the different areas.

Regression equations are given in the tables for multiple relationships only. Equations for simple relationships may be calculated by using the formula:

$$Y = a + bX$$

$$\text{where } a = \text{Mean } Y - b \text{ (mean } X)$$

$$b = r \frac{\text{Std. Dev. } Y}{\text{Std. Dev. } X}$$

INTERPRETING STATISTICAL DATA

In referring to the data presented in the tables of this report, it is well to keep in mind several factors which influence the results and could lead to erroneous conclusions.

Correlation values are significantly influenced by the specific variables included, and by their number. This is due to the interrelationships of fiber properties. As interrelated properties are added to a correlation, the specific contribution of a given property may decrease sharply while at the same time the overall correlation will increase. For example, a correlation of staple length with yarn strength usually shows a good relationship, with a large amount of the variation in yarn strength explainable by differences in staple length. But, as other measures are taken into consideration, particularly fiber strength at 1/8-inch gage, the importance of staple length in explaining the total variation in yarn strength decreases rather sharply, even though the total variation explained is increased. This situation occurs because fiber strength is more closely related to yarn strength than is staple length. Yet, when fiber strength is not included in the correlation, some of the effects of strength are evidenced through the interrelation of strength and staple length.

Perhaps the most important fact to be kept in mind is that interpretations based on only one statistic, such as a multiple R, a partial r, or a Beta value, may lead to incorrect conclusions. In order to estimate the importance of any variable, all of the available statistics should be considered.

BASIS FOR INTERPRETATION OF TEST RESULTS

The following explanation of the data published in Tables1 through 8 of this report may be helpful in the interpretation of test results.

Classification

Classification was made in accordance with the official Cotton Standards for grade and staple length. These results are presented under the usual terms for the individual lots but the grade values were converted to an index for averaging in the summary tables.

Grade index, as reported in the summary tables is designed to reflect differences in market value and provides a method for averaging the grade for a number of individual lots. Middling grade is used as the basis of 100, and higher or lower index numbers reflect higher or lower average market values, respectively. Index values for the various grades of upland cotton are shown below.

Grade		Grade Index						
Name	Code	Plus (0)	White (1)	Light Spotted (2)	Spotted (3)	Tinged (4)	Light Gray (5)	Gray (6)
Good Middling	(1)		105	103	101		99	93
Strict Middling	(2)		104	102	99	91	98	91
Middling	(3)	102	100	97	93	82	92	84
Strict Low Middling	(4)	97	94	89	83	75	85	75
Low Middling	(5)	90	85	80	75	68		
Strict Good Ordinary	(6)	81	76					
Good Ordinary	(7)	73	70					
Below Grade	(8)		60					

The grade of cotton is obtained by evaluating color, leaf, and preparation in relation to the official standards. Grade provides an indication of fiber color and the waste content of a sample of cotton. Experience has shown the average relationship between picker and card waste and various grades of upland cotton to be approximately as given in the tabulation shown in the subsequent section on manufacturing waste. In comparing

these average grade figures with the picker and card waste data, it should be understood that variations from the averages for individual samples are attributable to the nature of the extraneous material present in the cotton, the characteristics of the fiber, and whether the grade designation was low because of poor color.

Staple length is the length of a typical portion of the fibers in the samples as determined by the classer in comparison with official standards. Uniformity of fiber length, as well as other fiber properties, influence to some extent the classer's selection of the typical portion of the fibers on which the staple length designation is based. In general, there is a fairly close relationship between the staple length as designated by the classer and the fineness and strength of the yarn that can be manufactured from the cotton. These relationships, however, are also influenced by other fiber properties, the measurements of which will be discussed in the paragraphs which follow.

Fiber Tests

Fiber length data were obtained by the Digital Fibrograph method for the short, medium, and long staple American Upland samples and by the array method for the extra long American Pima and Upland samples. Briefly, the Digital Fibrograph method consists of placing representative specimens of cotton weighing approximately 30 centigrams at random on a pair of combs, parallelizing the beards of cotton extending from one side of the combs, and scanning these beards photoelectrically on the instrument at 3 length intervals beginning at 0.15 inch from the teeth of the combs and ending near the outer fringe. The 2.5 percent span length and the 50/2.5 uniformity ratio values reported for each lot are based on five specimens tested by each of two technicians.

The Digital Fibrograph 2.5 percent span length values reported indicate the length which will be spanned by 2.5 percent of the fibers when they are parallel and randomly distributed. It is also the length where the amount of fibers indicated by the instrument is 2.5 percent of the amount at the starting point of 0.15 inch. The Digital Fibrograph 2.5 percent span length values are closely related to staple length designations.

The Digital Fibrograph 50/2.5 uniformity ratio values reported indicate the relative uniformity of fiber length in the samples. They represent the ratios between the 50 percent span length and the 2.5 percent span length, expressed as percentages. Larger values indicate more uniform fiber length distribution. Unusually low fiber length uniformity tends to increase manufacturing waste, to make processing more difficult, and to lower the quality of the product. The following adjective descriptions will serve to classify cottons from the standpoint of 2.5 percent span length and fiber length uniformity:

2.5 Percent Span Length		50/2.5 Uniformity Ratio	
Below 1.00	Short	Below 41	Very low
1.00 - 1.14	Medium	41 - 43	Low
1.15 - 1.29	Long	44 - 46	Average
Above 1.29	Extra-long	47 - 48	High
		Above 48	Very high

Data source: 1,956 American Upland lots tested from the crops of 1974-78.

Array tests for the extra long staple American Pima and Upland samples were performed on the Suter-Webb fiber sorter. Briefly, this method consists of parallelizing the fibers in a representative 75-milligram specimen of cotton through a series of combs, separating the fibers into length groups at 1/8-inch intervals, and weighing the fibers in each length group. The upper quartile length and coefficient of variation values reported are based on one specimen tested by each of two technicians.

The array upper quartile length values reported indicate the length which is exceeded by 25 percent of the weight of the fibers in the samples. They are closely related to and longer than both the Fibrograph and the classer's staple designations. This relationship may vary, however, because the methods measure different fiber length characteristics.

The array coefficient of length variation values reported indicate the relative variability of fiber length in the samples. They represent the standard deviation of the weight-length frequencies expressed as a percentage of the mean length. Smaller values indicate more uniform fiber length distributions. Excessive fiber length variation tends to increase manufacturing waste, to make processing more difficult, and to lower the quality of the product. It is, therefore, considered desirable for a cotton to have a low coefficient of variation. The following adjective descriptions will serve to classify cottons from the standpoint of upper quartile length and fiber length variations:

Upper Quartile Length		Coefficient of Fiber Length Variation	
Below 1.10	Short	Below 26	Very low variation
1.10 - 1.24	Medium	26 - 29	Low variation
1.25 - 1.39	Long	30 - 33	Average variation
Above 1.39	Extra Long	34 - 37	High variation
		Above 37	Very high variation

Data source: 830 American Upland lots tested from the crops of 1958-60 (more recent data not available).

Fiber fineness and maturity in combination were determined by the micronaire test. This is an instrument test which measures the resistance of a plug of cotton to air flow. A representative standard weight of cotton fibers

is placed in the instrument specimen holder and compressed to a fixed volume. Air at a known pressure is forced through the specimen and the amount of flow is indicated by a direct reading scale. Readings obtained are relative measures of either the weight per unit length, or the cross sectional size of the fibers. Because the instrument measures may differ from the actual weight per inch, depending upon the fiber characteristics of the sample, the results are reported in terms of "micronaire reading" instead of micrograms per inch. These readings are taken from the curvilinear scale adopted in 1950, and now in international use. Fiber fineness contributes to yarn strength, particularly when fine numbers are spun, but it also tends to increase neppiness and to require a reduced rate of processing.

Fiber maturity, also an important factor affecting the appearance of yarns and fabrics, is a desirable characteristic from the standpoint of low picker and card waste. Immature fibers are susceptible to the formation of neps, and contribute to lower yarn appearance grades. The desirability of micronaire reading, therefore, depends on the specific end product or use of the cotton.

Several instruments, including the Micronaire, Fibronaire, and Port-Ar, may be used for these tests. All instruments now use the same scale and report results in the same terms, i.e. "micronaire reading." The micronaire reading is now a part of the official standards for Upland cotton along with grade and staple length.

Fiber strength is an important factor in determining yarn strength. Cottons with good fiber strength usually give less trouble in the manufacturing processes than the weak fibered cottons. Tests for fiber strength are made without a space between the clamp jaws (0 gage) using the Pressley flat bundle tester, and with a 1/8-inch spacer between the clamp jaws (1/8-inch gage) using the Stelometer. Strength results from the Pressley and the Stelometer were controlled at the same level by use of standard calibration cottons. Use of the Stelometer also provides a measure of fiber elongation. Comparative tests have shown that the results of the 1/8-inch gage tests are more highly correlated with yarn strength than the results of the zero gage tests. Results for both methods are reported, however, because the zero gage tests are widely used by the cotton industry.

The results for the Pressley zero gage test are reported in terms of thousand pounds per square inch, as calculated by the use of Formula 1. These results may be converted to other methods of expressing fiber strength by use of Formulas 2, 3, and 4:

(1) Thousand pounds per square inch (Mpsi) =

$$\frac{\text{breaking load in lb} \times 10.81}{\text{bundle weight in mg}}$$

(2) Grams per tex (G/tex) = Mpsi x 0.496

(3) Strength-weight ratio = Mpsi ÷ 10.81

(4) Strength-weight ratio = G/tex ÷ 5.36

The results of the 1/8-inch gage tests are reported in terms of grams per tex in accordance with the recommendations of the American Society for Testing and Materials (ASTM) and the International Standards Organization (ISO). A tex unit is equal to the weight in grams of 1000 meters of the material. There is a correlation between the 1/8-inch gage strength test results and fiber length. Cottons with short lengths tend to have lower average strength values than long staple cottons. Results for Pressley 1/8-inch gage tests are calculated by use of Formula 5. Stelometer results are adjusted to Pressley level by use of calibration cottons.

(5) $$\text{Grams per tex} = \frac{\text{breaking load (kg) x 15}}{\text{bundle weight in mg}}$$

The following descriptive terms may be applied to the data shown in this report:

Staple length group and descriptive designation	Zero gage strength (thousand psi)	1/8-inch gage strength (grams per tex)
Short staple:		
Very low	74 - 78	17 - 18
Low	79 - 83	19 - 20
Average	84 - 88	21 - 22
High	89 - 93	23 - 24
Very high	94 - 98	25 - 26
Medium staple:		
Very low	70 - 76	16 - 18
Low	77 - 83	19 - 21
Average	84 - 90	22 - 24
High	91 - 97	25 - 27
Very high	98 - 104	28 - 30
Long staple:		
Very low	71 - 77	18 - 20
Low	78 - 84	21 - 23
Average	85 - 91	24 - 26
High	92 - 98	27 - 29
Very high	99 - 105	30 - 32
Extra long staple:		
Very low	93 - 96	27 - 29
Low	97 - 100	30 - 32
Average	101 - 104	33 - 35
High	105 - 108	36 - 38
Very high	109 - 112	39 - 41

Data Source: 365 short staple, 1,447 medium staple, 144 long staple, and 88 extra long staple lots of cotton tested from the crops of 1974-78.

Fiber elongation results were obtained in connection with the 1/8-inch gage fiber strength tests by using the Stelometer instrument. The following adjective ratings will assist in the interpretation of the fiber elongation results reported:

Descriptive Designation	Fiber Elongation (percent)
Very low	4.9 and below
Low	5.0 - 5.8
Average	5.9 - 6.7
High	6.8 - 7.6
Very high	7.7 and above

Data Source: 1,956 American Upland lots tested from the crops of 1974-78.

Color measurements were made on samples of raw stock from each lot by using the Nickerson-Hunter Colorimeter. The basic color values reported are in terms of grayness and yellowness scales designed especially for cotton. The grayness scale ranges from 0 for the brightest samples (no gray) through 9 for the darkest color. The yellowness scale ranges from 0 for the lightest color (no yellow) to 9 for the yellowest color. In other words, the larger the number reported the darker or yellower the cotton becomes. The relationship of these new cotton color scales to Rd and +b values and to the color of the Universal Grade Standards for Upland cotton is shown in Figure 2 and for American Pima cotton in Figure 3.

The color of raw cotton is also reported as a single index number. The relationship of the index number to Rd and +b and the color of the Universal Grade Standards for Upland cotton is shown in Figure 4.

Nonlint content for the various lots was determined by the use of the Shirley Analyzer which separates the lint from the foreign matter. The total nonlint values reported include both visible and invisible loss. These results are distinguished from total picker and card waste in that practically no fiber is included, whereas textile mill wastes include appreciable amounts of fiber. Tests performed in previous years show the following average relationship of Shirley Analyzer nonlint to grade:

American Upland Grade	Code	Average Nonlint Content (percent)
Strict Middling	(21)	1.9
Middling	(31)	2.3
Strict Low Middling	(41)	3.1
Low Middling	(51)	4.4
Strict Good Ordinary	(61)	5.6
Good Ordinary	(71)	7.2

Data Source: 5,953 American Upland Color and Trash Survey samples tested from crops of 1974-78.

The following scale has been developed to represent the average nonlint content for grades of American Pima cotton:

American Pima Grade	Average Nonlint Content (percent)
2	1.9
3	2.3
4	3.0
5	3.7
6	4.7
7	6.0
8	8.4
9	9.1

Data Source: 2,543 American Pima Color and Trash Survey samples tested from the crops of 1974-78.

Differences between results obtained for individual lots and the average percentages shown for the grades may be caused by: (1) grade is a combination of color, leaf, and preparation, any one of which may be the limiting factor, (2) there is a range of trash allowable within each specific grade, and (3) these data are based on weight and do not take into consideration the nature of the trash, which may be as important as weight in determining the final grade.

Yarn Processing Tests

Small scale spinning tests were performed to provide indications of the processing behavior of the various cottons. The percentage of picker and card waste is related to mill turnout. Low percentages of waste indicate high mill turnout. Yarn strength, yarn appearance, yarn neps, color of bleached yarn, and color of dyed yarn results as measured in these tests are related to similar quality measurements of the mill product. The spinning potential test provides a measure of spinning end breakage and is directly related to the spinning behavior in the mill. High spinning potential (SPY) yarn numbers indicate low end breakage or good spinning in the mill.

Manufacturing waste reported for a sample of cotton is important because excessive waste increases the cost of cotton products. The percentage of waste extracted by the picking and carding processes in performing a spinning test provides a measure of manufacturing waste. There is an average relationship between this waste and grade as discussed in the previous section on the grade of cotton. The rate at which the cotton is carded, however, affects the picker and card waste values because the more thorough carding action obtained when the carding rate is decreased extracts a larger quantity of waste. The longer staple cottons are generally carded at a lower rate than the shorter cottons in order to obtain acceptable yarn quality. Tests performed in recent years show the following average relationship of picker and card waste to grade:

American Upland Grade	Code	Average Picker and Card Waste (percent)
Strict Middling	(21)	5.2
Middling	(31)	5.5
Strict Low Middling	(41)	6.0
Low Middling	(51)	6.9
Strict Good Ordinary	(61)	7.7
Good Ordinary	(71)	8.8

American Pima Grade	Average Picker and Card Waste (percent)
2	6.4
3	6.7
4	7.4
5	8.0
6	8.9
7	10.1
8	12.3
9	12.9

Data Source: 5,953 samples of American Upland cotton and 2,543 samples of American Pima cotton tested for Shirley Analyzer nonlint content from the crops of 1974-78. Picker and card waste was calculated from its relationship to Shirley Analyzer nonlint content.

The percentage of waste removed by the comber is reported in addition to the picker and card waste for cottons processed into combed yarn. The shorter staple cottons are processed through the comber with a closer setting than for the longer staple cottons because smaller comber waste percentages are usually extracted from this cotton in commercial practice.

Yarn strength is perhaps the most important and reliable test of yarn quality. Yarn strength not only determines the range of the usefulness of a given cotton, but is also an indication of spinning and weaving performance. The yarn strength test is performed on 120 yard skeins (80 turns on a 1.5 yard reel). Results reported are based on the average of 25 skeins for each yarn number. Yarn strength is reported in terms of skein strength since studies have shown that such strength values are more closely related to fabric strength as well as to fiber properties than single strand yarn strength. Skein strength data for the two numbers spun are reported for each lot. Length, strength, and fineness influence yarn strength more than other fiber properties.

The following descriptive terms may be of help in determining the relative level of yarn strength in this report:

Kind of yarn, staple length group, and description	Yarn skein strength in pounds for the specified yarn numbers	
Carded yarns		
Short staple group:	8s	22s
Low	262 - 282	82 - 90
Average	283 - 303	91 - 99
High	304 - 324	100 - 108
Medium staple group:	22s	50s
Low	88 - 100	26 - 32
Average	101 - 113	33 - 39
High	114 - 120	40 - 46
Long staple group:	22s	50s
Low	89 - 105	26 - 34
Average	106 - 122	35 - 43
High	123 - 139	44 - 52
Combed yarns		
Long staple group:	22s	50s
Low	110 - 126	35 - 43
Average	127 - 143	44 - 52
High	144 - 160	53 - 61
Extra long staple group:	50s	80s
Low	61 - 63	31 - 33
Average	64 - 66	34 - 36
High	67 - 69	37 - 39

Data Source: 365 short staple, 1,447 medium staple, 144 long staple, and 88 extra long staple lots of cotton tested from the crops of 1974-78.

Yarn elongation results were obtained in connection with yarn skein strength tests. Elongation in the yarn is highly correlated with fiber elongation. Yarns with high elongation give less end breakage in weaving than yarns with low elongation.

The following descriptive terms may be of some help in determining the relative levels of yarn elongation:

Kind of yarn, staple length group, and description	Yarn elongation in percent for the specified yarn numbers	
Carded yarns		
Short staple group:	8s	22s
Low	6.3 - 6.9	5.2 - 5.8
Average	7.0 - 7.6	5.9 - 6.5
High	7.7 - 8.3	6.6 - 7.2
Medium staple group:	22s	50s
Low	5.0 - 5.6	3.4 - 4.0
Average	5.7 - 6.3	4.1 - 4.7
High	6.4 - 7.0	4.8 - 5.4
Long staple group:	22s	50s
Low	4.7 - 5.3	3.4 - 4.0
Average	5.4 - 6.0	4.1 - 4.7
High	6.1 - 6.7	4.8 - 5.4
Combed yarns		
Long staple group:	22s	50s
Low	5.6 - 6.0	4.2 - 4.6
Average	6.1 - 6.5	4.7 - 5.1
High	6.6 - 7.0	5.2 - 5.6
Extra long staple group:	50s	80s
Low	5.2 - 5.4	4.3 - 4.5
Average	5.5 - 5.7	4.6 - 4.8
High	5.8 - 6.0	4.9 - 5.1

Data Source: 365 short staple, 1,447 medium staple, 144 long staple and 88 extra long staple lots of cotton tested from the crops of 1974-78.

Yarn appearance refers to the relative evenness, smoothness and freedom from foreign material of the yarn as evaluated by a visual comparison of the yarn with the latest standards adopted by the American Society for Testing and Materials (ASTM). Since appearance is very important in many types of cotton products, high yarn appearance grades are desirable. The following descriptive terms may be of help in determining the relative levels of yarn appearance in this report.

Kind of yarn, staple length group, and description	Yarn appearance index for the specified yarn numbers	
Carded yarns		
Short staple group:	8s	22s
Low	109 - 117	91 - 101
Average	118 - 126	102 - 112
High	127 - 135	113 - 123
Medium staple group:	22s	50s
Low	76 - 88	58 - 68
Average	89 - 101	69 - 79
High	102 - 114	80 - 90
Long staple group:	22s	50s
Low	77 - 91	60 - 70
Average	92 - 106	71 - 81
High	107 - 121	82 - 92
Combed yarn		
Long staple group:	22s	50s
Low	93 - 105	77 - 87
Average	106 - 118	88 - 98
High	119 - 131	99 - 109
Extra long staple group:	50s	80s
Low	100 - 106	97 - 105
Average	107 - 113	106 - 114
High	114 - 120	115 - 123

Data Source: 365 short staple, 1,447 medium staple, 144 long staple, and 88 extra long staple lots of cotton tested from the crops of 1974-78.

Yarn Appearance Grades

Grade	Index
A	130
B+	120
B	110
C+	100
C	90
D+	80
D	70
Below D	60

Yarn neps are reported for the two yarn numbers spun for each lot of cotton. These results were obtained on a Uster Evenness Tester with Imperfection Indicator, Model B. This is an electronic instrument which detects and counts neps in yarn. The yarn is drawn through a set of condenser plates, approximately 8mm in length. These plates create an electrical field which counts the neps when the yarn oversteps or understeps present limiting values. Yarn nep tests are made at a constant speed of 50 yards per minute for five minutes, for a total of 250 yards tested per observation. Two observations are considered a complete test. The total of the two observations is multiplied by two to obtain the number of yarn neps per 1,000 yards. Insufficient data has been collected to develop descriptive terms for determining relative levels of yarn neps.

Spinning potential yarn number indicates the finest yarn number than can be spun from a cotton sample without any end breakage when using specific processing procedures. In performing these tests, new travelers, draft gears, and twist gears are installed for the selected yarn number and it is spun for a 15-minute trial period. The yarn number selected is considered acceptable if there is an end breakage involving 5 to 15 of the 96 spindles employed during the trial run. If end breakages occur on less than 5 or more than 15 of the 96 spindles during the trial period, a different yarn number is selected to be spun for another 15-minute trial period until the acceptable end breakage rate is obtained. The acceptable trial period is also used for a warmup period which is followed by a 1-hour test period. The spinning potential yarn number is calculated from the deviation of the actual yarn number spun from the desired yarn number and the number of spindles with end breakages during the 1-hour test run. The following descriptive terms may be of help in determining the relative level of spinning potential yarn numbers in this report:

Spinning Potential Yarn Number (SPY No.)

	Short Staple Group	Medium Staple Group	Long Staple Group
Low	31 - 39	43 - 53	49 - 63
Average	40 - 48	54 - 64	64 - 78
High	49 - 57	65 - 75	79 - 93

Data Source: 365 short staple, 1,447 medium staple, and 144 long staple lots of cotton tested from the crops of 1974-78.

Chemical Finishing Tests

Information with respect to the bleaching and dyeing properties of different varieties and growths of cotton is of particular significance to textile manufacturers from the standpoint of providing a basis for avoiding problems

that may result from blending different varieties and growths having different dyeing properties. Data with respect to the chemical finishing properties of the principal varieties and growths of cotton as herein reported may thus be used as a basis for selecting cottons of similar finishing properties. Details of the chemical finishing tests are described in Agricultural Information Bulletin No. 167, "Bleaching, Dyeing, and Mercerizing Test Results on Some Varieties of Cotton Grown by Selected Cotton Improvement Groups, Crop of 1955."

Color measurements of cotton yarn samples were made on a Gardner Automatic Color Difference Meter. These values are reported in terms of R_d and b, two of the three scales on the instrument. The R_d scale measures percentages of diffuse reflectance from 0 to 100. The b scale provides a measure of yellowness in the direction of +b and of blueness in the direction of -b. The degree of either yellowness or blueness increases as the scale numbers increase. These data when plotted with R_d on the vertical ordinate and with b on the horizontal ordinate are similar to the color values for raw cotton when plotted in relation to the official grade standards as described in the earlier section on color of raw stock.

While the color factors R_d and b are not independent of each other and should be considered together in any overall interpretation, for many purposes it would be convenient in evaluating results to have them in terms of a single number. For raw cotton the grade index provides one way to do this in a straightforward manner. A similar method has been followed in developing conversion formulae and diagrams for each form of cotton measured for color as a part of the chemical finishing studies of the Cotton Division. In each, the index for Middling is held at 100 and that for Good Ordinary is held close to 70. By use of such indexes the color measurements of raw stock, gray yarns, bleached yarns, and bleached and dyed yarns may be converted to a single number specification. For details see "Grade and Color Indexes Developed for Evaluating Results of USDA Cotton Finishing Tests," AMS-245, June 1958.

The card production rates employed and the yarn numbers spun for each cotton were selected on the basis of the staple length expected in the specified area of growth as described in the earlier section on test procedures. Four different length groupings were used to cover the range of cottons grown in this country. The spinning twist multipliers were selected to provide maximum yarn strength on the basis of staple length. Details of the spinning test procedures are shown in Table 24.

Table 24--Cotton: Standard machine settings and specifications for processing specified staple length groupings

Process	Staple length groups			
	Short	Medium	Long	Extra long
1. PICKER				
Standard atmospheric conditions:				
Temperature. . . . . degrees F.:	75	75	75	75
Relative humidity. . . . . .percent:	60	60	60	60
Each test lot is processed through a finisher type picker twice to produce the specified weight of lap. . . . . .ounces per yard:	14	14	14	11
Type of beater . . . . . :	Kirschner	Kirschner	Kirschner	Kirschner
Beater speed . . . . . r.p.m.:	1,000	1,000	1,000	1,000
Settings:				
Feed roll to beater. . . . . inches:	3/16	3/16	3/16	3/8
Grids to beater, top . . . . . inches:	5/16	5/16	5/16	9/16
Grids to beater, bottom. . . . . inches:	11/16	11/16	11/16	11/16
2. CARD				
Standard atmospheric conditions:				
Temperature. . . . . degrees F.:	75	75	75	75
Relative humidity. . . . . .percent:	60	60	60	60
Picker lap fed . . . . . .ounces per yard:	14	14	14	11
Sliver delivered . . . . . .grains per yard:	50	50	50	40
Production rate. . . . . .pounds per hour:	12-1/2	9-1/2	6-1/2	4-1/2
Doffer speed . . . . . r.p.m.:	11	8	6	4
Cylinder speed . . . . . r.p.m.:	165	165	165	165
Flat speed . . . . . .inches per minute:	2-7/8	2-7/8	2-7/8	2-7/8
Licker-in speed. . . . . r.p.m.:	435	435	435	435
Clothing:				
Cylinder, Hollingsworth metallic . . . . . number:	35	35	25	25
Doffer, Hollingsworth metallic . . . . . number:	29	29	29	29
Flats, Fillet. . . . . number:	110	110	130	130
Settings:				
Feed plate to licker-in. . . . . inches:	0.010	0.010	0.010	0.017
Mote knife to licker-in, top . . . . . inches:	.012	.012	.012	.012
Mote knife to licker-in, bottom. . . . . inches:	.010	.010	.010	.010
Licker-in screen to cylinder . . . . . inches:	.034	.034	.034	.034
Licker-in to cylinder. . . . . inches:	.007	.007	.007	.007
Flats to cylinder, back, center, and front . inches:	.010	.010	.010	.010
Back plate to cylinder, top. . . . . inches:	.022	.022	.022	.022
Back plate to cylinder, bottom . . . . . inches:	.022	.022	.022	.022
Front plate to cylinder, top . . . . . inches:	.029	.029	.029	.029
Front plate to cylinder, bottom. . . . . inches:	.012	.012	.012	.012
Doffer to cylinder . . . . . inches:	.007	.007	.007	.007
Cylinder screen, back. . . . . inches:	.022	.022	.022	.022
Cylinder screen, center. . . . . inches:	.034	.034	.034	.034
Cylinder screen, front . . . . . inches:	3/16	3/16	3/16	3/16
Doffer comb to doffer. . . . . inches:	.017	.017	.017	.017
Crusher rolls pressure . . . . . pounds:	281	281	281	281
3. SLIVER LAPPER (combed only)				
Standard atmospheric conditions:				
Temperature. . . . . degrees F.:	--	--	75	75
Relative humidity. . . . . .percent:	--	--	60	60
Sliver fed, 20 each. . . . . .grains per yard:	--	--	42	42
Lap delivered. . . . . .grains per yard:	--	--	808	808
Speed. . . . . yards per minute:	--	--	46	46
4. COMBER (Model 52)				
Standard atmospheric conditions:				
Temperature. . . . . degrees F.:	--	--	75	75
Relative humidity. . . . . .percent:	--	--	60	60
Laps fed, 6 each . . . . . .grains per yard:	--	--	808	808
Sliver delivered . . . . . .grains per yard:	--	--	50	40
Production per hour. . . . . pounds:	--	--	22	22
Setting of cushion plate to detaching roll . . inches:	--	--	.33	.40
Nominal waste. . . . . .percent:	--	--	16 to 17	16 to 17

Process	Staple length groups			
	Short	Medium	Long	Extra long
5. DRAWING FRAME (four over five)				
Standard atmospheric conditions:				
Temperature. . . . . degrees F.:	75	75	75	75
Relative humidity. . . . . .percent:	60	60	60	60
First process:				
Sliver fed, 8 each . . . . . grains per yard:	50	50	50	40
Sliver delivered . . . . . grains per yard:	55	53	53	42
Second process:				
Sliver fed, 8 each . . . . . grains per yard:	55	53	53	42
Sliver delivered . . . . . grains per yard:	60	55	55	44
Speed. . . . . yards per minute:	36	36	36	36
Roll settings (center to center):				
First to third . . . . . inches:	2-3/4	2-3/4	2-3/4	2-3/4
Third to fourth. . . . . inches plus fiber length:	10/16	10/16	10/16	8/16
Fourth to fifth. . . . . inches plus fiber length:	13/16	13/16	13/16	12/16
6. LONG DRAFT ROVING (8 x 4, 1 apron type)				
Standard atmospheric conditions:				
Temperature. . . . . degrees F.:	75	75	75	75
Relative humidity. . . . . .percent:	60	60	60	60
Sliver fed . . . . . .grains per yard:	60	55	55	44
Roving delivered . . . . . hank:	1.30	1.80	1.80	4.25
Spindle speed. . . . . r.p.m.:	1025	1025	1025	1025
Roll settings (center to center):				
First to second, standard. . . . . inches:	2-1/4	2-1/4	2-1/4	2-1/4
second to third . . . . . inches:	1-3/8	1-1/2	1-5/8	1-11/16-1-7/8
7. LONG DRAFT SPINNING (2 apron type)				
Standard atmospheric conditions:				
Temperature. . . . . degrees F.:	75	75	75	75
Relative humidity. . . . . .percent:	65	65	65	65
Roving fed single. . . . . hank:	1.30	1.80	1.80	4.25
Twist multiplier . . . . . number:	4.4	4.0	3.8	3.6
Carded yarns . . . . . .number 1/:	8s & 22s	22s & 50s	22s & 50s	--
Combed yarns . . . . . number:	--	--	22s & 50s	50s & 80s
Spindle speed. . . . . r.p.m. 2/:	9000	9000	9000	9000
Roll settings (center to center):				
First to second, standard. . . . . inches:	2-1/16	2-1/16	2-1/16	2-1/16
Second to third, standard. . . . . inches:	1-3/4	1-3/4	1-3/4	1-3/4

1/ Additional yarn is spun on a 96 spindle wide gage frame at 9,000 r.p.m. spindle speed to determine the spinning potential yarn number or the finest yarn number that can be spun without end-breakage.

2/ All standard yarn numbers are spun on narrow gage frames with spindle speeds of 9,000 r.p.m. except for 8s, which are spun on a wide gage frame with spindle speed of 5,500 r.p.m.